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# Working-Life Tables for Canadian Males

BY FRANK T. DENTON AND SYLVIA OSTRY



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# ***Working-Life Tables for Canadian Males***

by  
**Frank T. Denton and Sylvia Ostry**

**ONE OF A SERIES OF LABOUR FORCE STUDIES  
in the  
1961 CENSUS MONOGRAPH PROGRAMME**

**DOMINION BUREAU OF STATISTICS  
OTTAWA, CANADA  
1969**

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## ***Foreword***

The Canadian Censuses constitute a rich source of information about individuals and their families, extending over many years. The census data are used widely but it has proved to be worthwhile in Canada, as in some other countries, to supplement census statistical reports with analytical monographs on a number of selected topics. The 1931 Census was the basis of several valuable monographs but, for various reasons, it was impossible to follow this precedent with a similar programme until 1961. Moreover, the 1961 Census had two novel features. In the first place, it provided much new and more detailed data, particularly in such fields as income, internal migration and fertility, and secondly, the use of an electronic computer made possible a great variety of tabulations on which more penetrating analytical studies could be based.

The purpose of the 1961 Census Monograph Programme is to provide a broad analysis of social and economic phenomena in Canada. Although the monographs concentrate on the results of the 1961 Census, they are supplemented by data from previous censuses and by statistical material from other sources. The present Study is one in a Series on the Canadian labour force. In addition to these Labour Force Studies, monographs have been or will be published on marketing, agriculture, fertility, urban development, income, immigration, and internal migration.

I should like to express my appreciation to the universities that have made it possible for members of their staff to contribute to this Programme, to authors within the Dominion Bureau of Statistics who have put forth extra effort in preparing their studies, and to a number of other members of DBS staff who have given assistance. The Census Monograph Programme is considered desirable not only because the analysis by the authors throws light on particular topics but also because it provides insight into the adequacy of existing data and guidance in planning the content and tabulation programmes of future censuses. Valuable help in designing the Programme was received from a committee of Government officials and university professors. In addition, thanks are extended to the various readers, experts in their fields, whose comments were of considerable assistance to the authors.

Although the monographs have been prepared at the request of and published by the Dominion Bureau of Statistics, responsibility for the analyses and conclusions is that of the individual authors.

*Harold G. Buffett*

DOMINION STATISTICIAN.





## *Preface*

This Study is one of a series dealing with selected aspects of the labour force in Canada as revealed, in the main, by the 1961 and earlier censuses. The study presents estimated tables of working life for males, including historical and regional tables. To the best of our knowledge, these tables are the first of their kind to be compiled for Canada.

While taking full responsibility for all errors and deficiencies of the material presented here, we wish to express appreciation to the Census Division and Special Surveys Division of DBS for providing unpublished data of various kinds. Also acknowledged is the assistance of Mr. Donald Brazier in carrying out some initial experimental work while he was on the staff of the DBS Labour Division.

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OTTAWA, 1968



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## 1. Introduction

The age at which a man begins his working life, the age at which he terminates it, and the length of time in between are subjects of considerable interest from various points of view. They are closely linked with such matters of public and private concern as the lengthening of the period of education, provision for the elderly in their years of retirement, the earning capacity of a man during his career and the loss of income consequent on premature death or incapacitation, the lifetime productivity or expected contribution of a man to the nation's output, and so on. To our knowledge, no detailed tables of working life have hitherto been prepared for Canada. This study is intended to fill the gap.<sup>1</sup>

The impressive reductions in mortality rates during this century and the pronounced tendency toward later school-leaving on the one hand and earlier retirement on the other, impart special interest to the study of trends in working life. Similarly, variations in the geographic dimension encourage comparisons among regions. Within the confines of available time and data, an attempt has been made to provide material that would be useful for both purposes. Specifically, tables have been compiled for Canada at each of the decennial census dates from 1921 to 1961 and separate tables for 1961 for the five conventional geographic regions.

The notion of working life and attempts to quantify it have a long history. The assumptions and procedures employed here are those developed by Seymour Wolfbein and applied by him and by others in the construction of various tables for the United States.<sup>2</sup> Some minor modifications have been

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<sup>1</sup> Some preliminary working-life estimates prepared in connection with the present study were released previously in Sylvia Ostry and Jenny Podoluk, *The Economic Status of the Aging*, a paper prepared for the Canadian Welfare Council's Conference on Aging, Toronto, January 1966, and published by the Dominion Bureau of Statistics, Ottawa. (See Part 1, "Labour Force and Employment Patterns", by Sylvia Ostry.)

<sup>2</sup> The basic description of methodology is to be found in Seymour L. Wolfbein, "The Length of Working Life," *Population Studies*, Vol. III, December, 1949 (reprinted in A.J. Jaffe, *Handbook of Statistical Methods for Demographers*, United States Bureau of the Census, Washington, 1960). See also: *Tables of Working Life: Length of Working Life for Men*, United States Bureau of Labor Statistics, Washington, August 1950; Seymour L. Wolfbein, *The Length of Working Life*, a paper presented at the Fourth International Gerontological Congress, Merano, Italy, July 1957; Stuart H. Garfinkle, "The Length of Working Life for Males, 1900-60," *Manpower Report Number 8*, United States Department of Labor, Washington, July 1963; Stuart Garfinkle, "Table of Working Life for Men, 1960," *Monthly Labor Review*, Vol. 86, No. 7, July 1963; and Stuart Garfinkle, *The Lengthening of Working Life and Its Implications*, a paper presented at the United Nations World Population Conference, Belgrade, Yugoslavia, August-September 1965.

introduced here and there and adjustments made necessitated by the peculiarities of the Canadian data but in all essential respects the Wolfbein "model" has been adopted.

The working-life table is viewed as an extension of the basic life table which has long been a standard tool in actuarial and demographic analysis. Accordingly, Section 2 of this study is devoted to a review of the concepts and definitions underlying the construction of life tables. In Section 3 the general framework for male working-life tables is discussed and in Section 4 the specific definitions and relationships. Section 5 provides a description of data sources and methods of estimation or adjustment. Section 6 presents some comments on the interpretation and use of the actual tables. The tables follow Section 6.

## 2. Basic Concepts and Definitions Associated with Life Tables<sup>1</sup>

The life table is a convenient and time-honoured device for summarizing a given set of mortality conditions and their implications. Assuming an initial 100,000 persons alive at birth,<sup>2</sup> the table displays the rate or probability of death at each age, the consequent number of survivors of the initial population, the average number of years of life remaining to these survivors, and various related measures. Being concerned solely with mortality and its effects, the life table abstracts from migration: the only means of entry into the hypothetical life table population is by birth and the only means of exit is by death.

Two basic types of life table may be distinguished. The first, and by far the most common, is the *current* life table. In this type, all calculations are based on population and death statistics pertaining to a given year or other specified period; the mortality rates used throughout the table are those that obtained at each age in the given period.<sup>3</sup> As a means of studying actual historical patterns of mortality, this kind of table suffers from a failure to take account of dynamic influences. There may be advances from year to year in medical knowledge, improvements in public health practices, changes in the incidence and severity of everyday health hazards, and so on. Half a century from now, the child born this year may be subject to a rate of mortality quite different from that to which the 50-year-olds of today are subject. The current life table ignores this. However, it has the important advantage of being relatively easy to calculate from generally available data and its widespread use in actuarial and demographic work attests to its value as an analytical tool.

The second type is the *cohort* life table. This type relates to a given group or cohort of persons born in a particular year and is based on the actual mortality rates experienced by that cohort as it grows older. For

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<sup>1</sup> Detailed descriptions of life table methods may be found in any one of many actuarial volumes. For a discussion of basic methods, see A.J. Jaffe, *Handbook of Statistical Methods for Demographers*, United States Bureau of the Census, Washington, 1960. The present section contains only a brief review.

<sup>2</sup> Actually, a life table need not start at age 0. For example, the Keyfitz table for 1921 begins with 100,000 alive at age five. (Nathan Keyfitz, *Canadian Life Tables*, 1931 Census Monograph No. 13, Dominion Bureau of Statistics, Ottawa, 1937.)

<sup>3</sup> It is not uncommon to base the mortality calculations on data for periods longer than one year in order to reduce the effects of short-term fluctuations. Canadian life tables have been based in most cases on mortality data for three-year periods centred on census years (e.g., 1960-1962).

example, if the table related to persons born in 1921, the mortality rate at age five would be based on death statistics for five-year-olds in 1926, the mortality rate at age 10 would be based on death statistics for 10-year-olds in 1931, and so on. By reflecting dynamic elements, such a table may be more meaningful for some purposes. However, it is inherently much more difficult to construct. Whereas a current life table may be based on data for only one year, a cohort table requires long historical time series; to follow a single cohort through its entire lifetime, data spanning more than a century would be needed. Moreover, to construct a complete life table for a cohort born less than a century ago it would be necessary to engage in forecasting because some of the mortality experience of such a cohort would still lie in the future. For persons born 50 years ago, a complete table would require predictions extending over roughly the next half-century and for newborn infants virtually a whole century of future mortality conditions would have to be predicted.

Mortality rates at given ages may vary among different groups. Life tables are usually compiled separately for males and females and sometimes for geographic regions or other well-defined segments of the population. To identify all of the groups that are highly homogeneous with respect to mortality patterns and to calculate a separate table for each one would be ideal but in practice the lack or inaccuracy of available data may make this impossible. This is of particular relevance in the present context. As noted below, in making calculations of working life it has been necessary to use life tables pertaining to the male population as a whole rather than specifically to the labour force component of the male population. Of course, even if mortality rates were calculable for the labour force as a whole, important differences among occupations would still be masked.

Employing conventional symbols and definitions, the standard life-table quantities are as follows:

- $q_x$  — the probability that a person of exact age  $x$  (that is, on his  $x^{\text{th}}$  birthday) will die before attaining age  $x + 1$
- $p_x$  — the probability that a person of exact age  $x$  will survive to age  $x + 1$
- $l_x$  — the number of persons who survive to exact age  $x$  out of the original 100,000 alive at birth
- $d_x$  — the number of deaths of persons between exact age  $x$  and exact age  $x + 1$  or, expressed differently, the number of persons who survive to exact age  $x$  but die before attaining exact age  $x + 1$
- $L_x$  — the combined total number of years of life lived in the interval between exact age  $x$  and exact age  $x + 1$  by persons who have survived at least to exact age  $x$ ; alternatively, the number of persons who were  $x$  years old at last birthday at any given instant in a *stationary* population which experiences in perpetuity the mortality conditions of the life table and the condition that there are 100,000 live births per annum spread evenly throughout the calendar year



$T_x$  — the combined total number of years of life remaining to persons who have survived to exact age  $x$ ; in the stationary population just described this is equivalent to the total number of persons of exact age  $x$  or older

$e_x$  — the mean expectation of life at exact age  $x$ , that is, the average number of years of life remaining to persons alive at exact age  $x$ .

More precise definitions are implied by the following relationships:

$$q_x = \frac{d_x}{I_x}$$

$$p_x = \frac{I_{x+1}}{I_x} = 1 - q_x$$

$$I_x = I_x - I_{x+1} + I_x$$

$$d_x = I_x - I_{x+1}$$

$$T_x = \sum_{n=0}^{\infty} L_{x+n} = T_{x+1} + L_x$$

$$e_x = \frac{T_x}{I_x}$$

Also, if deaths are taken to be distributed uniformly throughout each age interval the following may be written:

$$L_x = 1/2(I_x + I_{x+1})$$

This assumption is generally considered to be satisfactory for all but the youngest ages. Since the concern here is with the population of working age, it may be accepted without reservation.

The working-life calculations described in the next two sections are based primarily on  $L_x$  rather than  $I_x$  values. For convenience later,  $Q_x$ , the rate or probability of death associated with  $L_x$  (analogous to  $q_x$ , the probability associated with  $I_x$ ) is defined:

$$Q_x = \frac{L_x - L_{x+1}}{L_x}$$

Finally, it may be observed that all of the quantities defined above can be calculated from the  $I_x$  values. Given the  $I_x$  column, and the assumption that deaths are distributed uniformly within each year, the remainder of the life table can be derived by simple arithmetic operations.



### ***3. The General Approach to the Construction of Working-Life Tables for Males***

The approach to the measurement of male working life adopted for purposes of this study is one that has been used extensively in the preparation of tables for various years in the United States; with only minor exceptions the same concepts and definitions are employed here.<sup>1</sup> Aside from the basic merits of the methodology, this has the advantage of making it possible to compare directly the United States results with those obtained for Canada.

In conceptual framework, the working-life table represents a straightforward extension of the ordinary life table. A segment of the total life-table population is identified, namely the "working population" or "labour force". As before, migration is ignored and there are 100,000 live births per year. Members of the population may enter the labour force at various ages. Having done so, they may leave it at various ages because of death or retirement. (The term "retirement" is used here to mean all forms of withdrawal from the labour force other than death, including both voluntary and involuntary withdrawals.) The total number of years that a person spends in the labour force is termed his "working life". Thus defined, working life is not, be it noted, equivalent to the number of years of actual work, for it may include periods of unemployment and part-time employment.

The construction of working-life tables would be greatly facilitated if there were available accurate records of labour force entries and exits at each age in the same way that entries and exits for the population as a whole are recorded in the statistics of births and deaths. In practice, such records are not generally available and one must be content with estimates of the total labour force at each age and the labour force as a proportion of the population. (Hereafter this proportion will be referred to as the "worker rate" for a given age.) Increases or decreases in the labour force from one age to the next represent *net* changes—differences between the number of persons moving in and the number moving out. Only if it is assumed that the movement in one direction is negligible can the changes in the labour force be taken to represent gross changes.

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<sup>1</sup> See footnote<sup>2</sup>, p. 1.

Fortunately, this assumption is not an unreasonable one for males in the younger age groups. There is some movement in both directions but most of the movement of men in their teens, twenties, and early thirties can be assumed to be *into* rather than *out of* the labour force. (We abstract from the short-term seasonal movement of students.) Thus, after allowance is made for mortality, the net changes may be regarded as rather close approximations to the numbers of new entrants and the "rates of accession to the labour force" defined below as reasonably close approximations to the gross rates of inflow per unit of population.<sup>1</sup>

The assumption that *net* flows approximate *gross* flows is less tenable for other age groups. A permanent physical or mental disability may make it necessary for a man of middle age or older to withdraw from the labour force for good but if the disability is of a temporary nature he may leave and then return at a later time. Men in their sixties and seventies who have retired from their "regular" jobs may continue to have a marginal attachment to the labour market for several years, moving in and out of jobs as they see fit and as employment conditions permit. What are defined below as "rates of separation from the labour force resulting from retirement" are clearly *net* rates of outflow from the labour force; as approximations to *gross* rates of outflow, they undoubtedly contain a margin of error.

It is worth noting that the working-life table suffers from problems of definition and measurement much more serious than those that generally afflict the ordinary life table. Whereas life and death are totally unambiguous concepts, labour force status is not. Whether a person is or is not considered to be in the labour force may depend very much on the definitions used, on the wording of the questions asked in a census or sample survey, and even on the context and sequence in which the questions are asked. The practical importance of this is evidenced by the substantial differences between the figures for the labour force provided by the 1961 Census and the comparable figures from the Labour Force Survey. These differences, and the adjustments they necessitated, are described in Section 5.<sup>2</sup>

<sup>1</sup> It is common practice in the context of life tables to refer to quantities such as  $q_x$  and  $p_x$  as *probabilities*, and indeed they are employed as such. However, labour force accessions and separations, as calculated here, represent *net* flows (more or less) and the use of the term *probability* is therefore less appropriate. Accordingly, we use the term *rates* in referring to quantities associated with working-life tables.

<sup>2</sup> For a discussion of conceptual and definitional problems associated with measuring the labour force in the Canadian context, see Frank T. Denton and Sylvia Ostry, *Historical Estimates of the Canadian Labour Force*, a study in the 1961 Census Monograph series. See also Denton and Ostry, "Differences Between Labour Force Survey 'Unemployed' and 1961 Census 'Persons Looking for Work,'" published as Appendix A of *Unemployment in Canada* by Sylvia Ostry in the same series.

It is certainly the case that, for a given age, men who are in the labour force and men who are not are subject to different mortality rates. For those in the prime adult age groups, the fact of not being in the labour force would often be evidence of serious illness or infirmity. In constructing working-life tables it would be desirable to have separate schedules of mortality rates for the labour force and non-labour force components of the population. However, in the absence of such information it is necessary to assume that the rates for the male population as a whole at each age are applicable to both components.

Working-life tables, like ordinary life tables, may be compiled on either a "current" or a "cohort" basis. In a current table, the worker rates, as well as the death rates, would be based entirely on data for a given year or other specified period. In a cohort table they would be based on the actual historical experience of a group of persons who were all born at some specified initial time. The observations on the advantages and disadvantages of the cohort approach made above in connection with life tables apply with at least as much force to working-life tables. In particular, the complete lifetime sequence of worker rates for a given cohort is generally extremely difficult, if not impossible, to compile from available statistics; for cohorts whose working life has not yet terminated, forecasting would be necessary. On the other hand, worker rates for some age groups have been changing very rapidly in Canada, as elsewhere, and the failure of a current working-life table to reflect this is a notable deficiency. Although all of the complete working-life tables presented here are necessarily of the current type, some supplementary estimates of worker rates have been provided on a cohort basis for those portions of the lifetimes of the selected cohorts that coincide with the period for which the necessary data are available.



## 4. Definitions and Relationships Basic to Working-Life Tables

Defined here are the specific quantities employed in the construction of working-life tables in addition to those already defined for ordinary life tables.

- $w_x$  — the "worker rate" or ratio of the number of persons in the labour force to the number of persons in the population in the interval between exact age  $x$  and exact age  $x + 1$
- $lw_x$  — this is analogous to  $l_x$ ; it is the number of persons who survive and are in the labour force at exact age  $x$  out of the original 100,000 alive at birth
- $Lw_x$  — this is analogous to  $L_x$ ; it is the combined total number of years of labour force activity experienced in the interval between exact age  $x$  and exact age  $x + 1$  by persons who have survived at least to exact age  $x$ ; alternatively, it is the number of persons in the labour force who were  $x$  years old at their last birthday at any given instant in a *stationary* population that experiences in perpetuity the mortality conditions and worker rates of the working-life table and the condition that there are 100,000 live births per annum spread evenly throughout the calendar year
- $A_x$  — the rate of accession to the labour force; this is the (net) number of persons entering the labour force in the interval between  $x$  and  $x + 1$  (after allowance for mortality) expressed as a ratio to the total stationary population  $x$  years old at last birthday
- $Q_x^s$  — the rate of separation from the labour force resulting from all causes; this is the (net) number of persons leaving the labour force, for whatever reasons, in the interval between  $x$  and  $x + 1$ , expressed as a ratio to the total labour force of age  $x$
- $Q_x^d$  — the rate of separation from the labour force resulting from death; this rate is defined in the same way as  $Q_x^s$  of which it is a component
- $Q_x^r$  — the rate of separation from the labour force resulting from retirement; this rate (which is a net rate) is also defined in the same way as  $Q_x^s$  of which it is a component; the word "retirement" is used to represent all forms of withdrawal from the labour force other than death
- $x^*$  — the age at which the worker rate attains (or first attains) its maximum value
- $Tw_x$  — the combined total number of years of labour force activity remaining to persons who have survived and are *in the labour force* at exact age  $x$
- $ew_x^0$  — the mean expectation of working life at exact age  $x$  for persons *in the labour force*, that is, the average number of years of labour force activity remaining to persons alive and in the labour force at exact age  $x$

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- ${}^0er_x$  — the mean expectation of retirement at exact age  $x$  for persons in the labour force, that is, the average number of years of retirement in prospect for persons alive and in the labour force at exact age  $x$
- $Tw'_x$  — the combined total number of years of labour force activity remaining to persons who have survived to exact age  $x$ , whether or not they are in the labour force; in the stationary population this is equivalent to the total number of persons of exact age  $x$  or older who are in the labour force
- ${}^0ew'_x$  — the mean expectation of working life at exact age  $x$  for all persons in the population, that is, the average number of years of activity in the labour force remaining to persons alive at exact age  $x$ , whether or not they are in the labour force
- ${}^0er'_x$  — the mean expectation of non-labour force activity at exact age  $x$  for all persons in the population, that is, the average number of years outside the labour force in prospect for persons alive at exact age  $x$ , whether or not they are in the labour force<sup>1</sup>
- $Iw^*_x$  — hypothetical value of  $Iw_x$  based on the maximum worker rate rather than the actual worker rate
- $Lw^*_x$  — hypothetical value of  $Lw_x$  based on the maximum worker rate rather than the actual worker rate.

The subscript  $x$  is used to represent age. In discussing calculations involving cohorts, attention should be given also to calendar time. Whenever necessary, the additional subscript  $t$  is employed for this purpose. In particular,  $w_{xt}$  is used for the worker rate at age  $x$  in year  $t$ .

The stationary population figures ( $L_x$ ) and the worker rates ( $w_x$ ) may be regarded as the basic inputs into the working-life table. With one or two minor qualifications, all other quantities can be derived from these two series. First of all, the stationary labour force is given by the product of the two:

$$Lw_x = w_x L_x$$

Accessions for ages younger than  $x^*$ , the age at which the worker rate attains its maximum, are calculated from successive increases in the stationary labour force, adjusted for mortality. (Recall that  $Q_x$ , the relevant death rate, can also be derived from the  $L_x$  series.) For  $x^*$  and above, the accession rate is set equal to zero:

$$A_x = \frac{Lw_{x+1} - (1 - Q_x)Lw_x}{L_x} \quad (x < x^*)$$

$$A_x = 0 \quad (x \geq x^*)$$

<sup>1</sup> The term "retirement" is used in reference to persons in the labour force and the term "non-labour-force activity" is used in reference to persons in the population; the latter is intended to cover time spent in early childhood, in school, etc., as well as in retirement.



It is assumed that all separations from the labour force prior to  $x^*$  are the result of death. For  $x^*$  and older, the further assumption is made that retirements are uniformly distributed within each year so that, on average, a person would be exposed to the risk of death as a worker for only half of the year in which he retires. On this basis, the number of persons in the labour force exposed to the risk of death over the course of a full year is equivalent to the labour force at the start of the year minus half of the retirements during the year. Performing a little algebraic manipulation, the various relationships that determine the separation rates may then be written as follows:

$$Q_x^s = Q_x^d = Q_x \quad (x < x^*)$$

$$Q_x^r = 0 \quad (x < x^*)$$

$$Q_x^s = \frac{Lw_x - Lw_{x+1}}{Lw_x} \quad (x \geq x^*)$$

$$Q_x^d = \frac{Q_x(2 - Q_x^s)}{2 - Q_x} \quad (x \geq x^*)$$

$$Q_x^r = Q_x^s - Q_x^d \quad (x \geq x^*)$$

The total and mean number of years of labour force activity remaining to the population as a whole at age  $x$  are obtained in a straightforward manner from

$$Tw'_x = \sum_{n=0}^{\infty} Lw_{x+n}$$

$$w'_x = \frac{Tw'_x}{I_x}$$

The corresponding calculations relating to persons in the labour force are similar for ages above  $x^*$ , the only difference being that  $I_x$  is replaced by  $lw_x$ . However, some modification of the formulas are necessary for ages at which the worker rate has not yet reached its maximum. Only the working life of persons who have already entered the labour force is of interest here so that the contribution of future entrants should be eliminated. This is accomplished by calculating what the labour force would have been if the worker rate was already at the maximum level and using the results in place of the actual labour force figures. That is to say,  $lw_x$  is replaced by  $lw_x^*$  and  $Lw_x$  by  $Lw_x^*$  at the younger ages. Letting  $k$  be equal to  $x^* - x - 1$ ,

$$Tw_x = \sum_{n=0}^k Lw_{x+n}^* + \sum_{n=0}^{\infty} Lw_{x+n}^* \quad (x < x^*)$$

$${}^0e_{wx} = \frac{T w_x}{l w_x^*} \quad (x < x^*)$$

$$T w_x = T w_x' = \sum_{n=0}^{\infty} L w_{x+n} \quad (x \geq x^*)$$

$${}^0e_{wx} = \frac{T w_x}{l w_x} \quad (x \geq x^*)$$

The  $l w_x$  and  $l w_x^*$  values are derived by linear interpolation between successive values of  $L w_x$  and  $L w_x^*$  on the assumption of uniformly distributed changes within each year.<sup>1</sup> Thus,

$$L w_x^* = w_x^* L_x$$

$$l w_x = 1/2 (L w_x + L w_{x-1})$$

$$l w_x^* = 1/2 (L w_x^* + L w_{x-1}^*)$$

Lastly, the mean expected number of years outside the labour force is given by the difference between the mean expectation of life and the mean expectation of working life:

$${}^0e_r' = {}^0e_x - {}^0e_{wx}'$$

$${}^0e_{rx} = {}^0e_x - {}^0e_{wx}$$

The mean expectation of life is the same for persons in the labour force as for the population as a whole by virtue of the assumption that mortality rates are the same for both groups.

<sup>1</sup> Whereas in the case of the  $l w_x$  series it was necessary to interpolate between successive  $L w_x$  figures, in the case of the  $l_x$  series figures were available from the published life tables and these were used.

## 5. Sources of Data and Methods of Estimation

The basic inputs for the working-life calculations are the stationary population figures and the worker rates.

The stationary population figures employed in this study are taken from published life tables, which are available for census years since 1921.<sup>1</sup> Unfortunately, the table for 1921 suffers from the omission of Quebec from the Canadian vital statistics registration area at that time. However, tables have been compiled for 1931 for both the eight-province and nine-province areas and a comparison of these affords a basis for adjusting the 1921 table. Newfoundland was not included in any of the life tables until 1951 but evidence suggests that any consequent discontinuity in the historical series is probably negligible and is thus ignored.<sup>2</sup>

Worker rates are based on special tabulations of 1961 Census data by single years of age, data from the monthly Labour Force Survey, historical labour force estimates compiled for this study for the period since 1921, and published decennial census population figures. The rates were subjected to considerable smoothing and adjustment, as described below. Since only age-group data were available for census dates prior to 1961, the construction of series by single years of age for the pre-1961 period necessarily involved a substantial degree of rather arbitrary estimation and interpolation.

After much experimentation, the following procedures were adopted for the estimation of worker rates in 1961. First, the census series for ages 15 and over was adjusted to the general levels of rates based on the Labour Force Survey. This was done by applying a ratio adjustment to the single-age census rates in each of the ten age groups for which Survey rates were available. Thus, the rates for each age in the range 20-24 were multiplied by one constant, those in the range 25-34 by another, and so on.<sup>3</sup> Secondly,

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<sup>1</sup> The life tables employed in this study are contained in the following publications of the Dominion Bureau of Statistics, Ottawa: *Canadian Life Tables, 1931 Census Monograph No. 13* (by Nathan Keyfitz); *Life Tables for Canada and Regions, 1941 and 1931*; *Canadian Life Tables, 1950-1952 and 1955-1957*; *Canadian Life Tables, 1960-1962*; *Provincial and Regional Life Tables, 1960-1962*. For convenience, the practice has been adopted of referring to the tables according to the census year on which they are centred (e.g., 1961 rather than 1960-1962).

<sup>2</sup> Newfoundland is excluded also in the calculations of worker rates prior to 1951 but, again, the effect of this exclusion on the comparability of the working life tables is considered to be negligible.

<sup>3</sup> The age groups for which Labour Force Survey data were available for 1961 are 14, 15-16, 17-19, 20-24, 25-34, 35-44, 45-54, 55-64, 65-69, and 70 and over.

the adjusted rates, extended on the basis of Survey data to age 14, were plotted on graph paper and a free-hand curve drawn through them with considerable care. Thirdly, the points on this curve were read from the chart and smoothed by taking five-term weighted moving averages (weights 1/9, 2/9, 3/9, 2/9, 1/9). Fourthly, the rates for the two youngest ages (14 and 15) and the two oldest (99 and 100), which were "lost" in the moving-average process, were re-estimated. Finally, some corrections to the smoothed rates for ages 64-70 were made, on the basis of the original census rates, in order that the series would reflect some genuine discontinuities in the pattern of retirement which had been eliminated by the smoothing. These procedures were used in obtaining national worker rates and rates in each of the five regions of Canada for which working-life tables have been prepared. In theory, the national rates should be equal to appropriately weighted combinations of the regional rates but in practice this relationship was ignored and the series estimated independently. However, any inconsistency among the working-life tables resulting from this is likely to be small.

The 1961 age-group figures used to adjust the levels of the single-age census rates were obtained by averaging May and June Labour Force Survey estimates.<sup>1</sup> A substantial number of students are temporarily in the labour force by the beginning of June and so that the worker rates would better represent the permanent male labour force, estimates of the temporary student component were deducted from the age groups under 25. These estimates were based on interpolations between the April and October Survey figures for the labour force. Also, adjustments were made to all age groups to provide for the inclusion of the armed forces and of Indians living on reserves, both of which groups are outside the range covered by the Labour Force Survey.<sup>2</sup>

The national worker rates for each census year in the period 1921-1951 were estimated by employing procedures similar to those just described but without benefit of any initial single-age series. Rates in each year were calculated for those age groups for which labour force estimates

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<sup>1</sup> The labour force questions in the 1961 Census pertained to the week preceding the visit of the enumerator. Enumeration was conducted over a period but was concentrated in the early part of June and the average date to which the figures relate may be taken to be near the beginning of the month. The Labour Force Survey, on the other hand, related to the weeks ending on the 20th of May and on the 17th of June. An average of the two sets of Survey figures therefore gives a better approximation to the census date than either one taken by itself.

<sup>2</sup> The Labour Force Survey figures were increased by the addition of the armed forces. In calculating the worker rates, it was assumed that the rate for Indians on reserves was approximately the same as the rate for the remainder of the population in a given age group; this assumption was given effect by deducting Indians on reserves from the population so that they were excluded from both numerator and denominator in the calculation of worker rates.

had previously been made.<sup>1</sup> A continuous free-hand curve was passed through the age-group rates in order to arrive at a first approximation to the rates for single years of age. As before, the resulting series were further smoothed by taking five-term weighted moving averages and then extended at the lower and upper ends to allow for those values that had been "lost". Corrections were made to the smoothed rates for ages 64-70 in 1951 but for earlier years the retirement pattern was assumed to have been sufficiently smooth to make corrections unnecessary.

Although the worker rates were based on rates for age groups, no attempt was made to force exact consistency between these group rates and the final single-age series. (This applies to 1961 as well as to the other years.) The group rates were used merely in obtaining a first approximation.

After the worker rates had been calculated on the "current" basis for decennial census years from 1921 to 1961, some estimates were then constructed on the "cohort" basis as well. To do this it was necessary to estimate for intercensal years. Let  $w_{xt}$  be the worker rate at age  $x$  in year  $t$  (for example, the rate for persons of age 23 in the year 1934 or, to be more precise, at the middle of 1934), let  $c$  be the year of the previous census, and let  $c'$  be the year of the next one. It was assumed that the transition from the old census worker rate to the new one was more or less continuous and uniform at each age and that intervening rates could therefore be adequately approximated by interpolation:

$$w_{xt} = \left( \frac{t - c}{c' - c} \right) w_{xc'} + \left( \frac{c' - t}{c' - c} \right) w_{xc}$$

As noted above, the life expectation figures available for 1921 were based on a vital statistics area which excluded Quebec. The figures were adjusted at each age by the amount of the difference between the published

<sup>1</sup> For 1951, labour force estimates were available for seven age groups: 14-19, 20-24, 25-34, 35-44, 45-54, 55-64, and 65 and over. For 1941, there were five groups: 14-19, 20-24, 25-34, 35-64, and 65 and over. (A sixth group, 10-13, was included in the estimates for 1921 and 1931; after 1931 the labour force under the age of 14 was assumed to be negligible.) In order to achieve historical consistency and to make use of all of the age detail available, the 1961 male labour force was first "projected backwards" to 1951 in each of the seven age groups on the basis of the proportionate changes in labour force participation rates between 1951 and 1961. The 1951 labour force was then projected backwards to 1941 in each of the same seven age groups by applying the proportionate change in the participation rate for the 35-64 category as a whole to each of the 10-year age groups within the category. This procedure was repeated to get 1931 figures and repeated again to get figures for 1921. By using this chain method of "projection", advantage was taken of the additional detail available for 1951 in calculating not only the 1951 figures themselves but also the figures for earlier years. The basic estimates of labour force and participation rates are contained in Denton and Ostry, *Historical Estimates of the Canadian Labour Force*.

figures for 1931 for the registration areas with and without Quebec.<sup>1</sup> The estimates of working-life expectations, which were calculated in the first instance on the basis of the published 1921 life-table values, were adjusted in a similar manner. That is to say, working-life expectations were calculated for 1931 on both bases and the differences used to adjust the 1921 figures.

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<sup>1</sup> Actually, the table calculated for the registration area excluding Quebec is based on 1931 mortality data and the table calculated for the complete area is based on data for the three-year period 1930-1932. However, whatever differences there may be between the two tables as a result of this difference in time period are ignored.

## 6. Comments on the Interpretation and Use of the Tables

The working-life tables for Canada and the regions in 1961 and for Canada alone in 1931, 1941 and 1951 are presented in identical format. The stationary population and labour force figures, the worker rates and the mean expectations of life, working life and retirement are shown in full single-age detail for ages from 14 to 85 in Part A of each table. The accession and separation rates are shown in Part B by single years for ages less than 35 and by five-year groups for ages from 35 to 84. Since maximum labour force participation is in every case achieved before the age of 35, single-age detail is available for the whole of the period during which the accession rates are positive, that is, the worker rates are rising. At higher ages, the single-age separation figures exhibited so much erratic and clearly spurious fluctuation that some averaging was considered desirable. The averages shown are simple arithmetic means of the rates for individual ages.

The working-life table for 1921 contains only worker rates and mean expectational values. Because of the limitations of the life-table material for that year, it was considered impossible to provide the full range of detail.

The working-life and retirement expectations in Tables 1-10 refer to persons *in the labour force*. Tables 11 and 12 present some expectational figures pertaining to the population as a whole. Such figures probably are most meaningful for pre-working ages, or at least for ages prior to the point at which accessions to the labour force cease. Accordingly, in these two tables, the calculations are confined to selected ages from 0 to 25. Figures for 1961 for Canada and regions are presented in Table 11 and figures for Canada alone for the period 1921-1961 are given in Table 12.<sup>1</sup>

Estimated worker rates on a cohort basis are presented in Table 13 for persons born in the 12-month periods preceding decennial census dates from 1851 to 1941. Since the calculations are based entirely on data for the period 1921-1961, rates are shown in the table only for those portions of

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<sup>1</sup> The labour force is defined as 14 years of age and over in the period 1941-1961 but in 1921 and 1931 it is defined as 10 and over. No detail is shown in any of the tables for ages less than 14, with the exception of Tables 11 and 12. In the case of Table 12, which contains 1921 and 1931 figures, the calculations for ages 0, 1, 5 and 10 include allowance for members of the labour force under the age of 14. The worker rates (per 1,000 population) assumed in the calculations for Table 12 are as follows: for 1921, 0 at age 10, 13 at age 11, 40 at age 12, and 114 at age 13; for 1931, 0 at age 10, 4 at age 11, 21 at age 12, and 57 at age 13.

the lifetimes of the cohorts that were lived during this 40-year period. (Because of considerations of reliability, no rates are shown above age 84.)

The use and proper interpretation of the tables may be illustrated by examples. Table 1 may be taken as representative of all of the Tables from 1 to 9, and of Table 10 also, allowing for the more limited scope of the latter. In Table 1 it may be noted, for example, that out of 100,000 males born alive, 94,503 are still alive at age 25 (that is, were 25 on their last birthday). Of these, 89,589 are in the labour force, or 948 per 1,000 population. On the day of his 25th birthday, a person who is in the labour force might expect, on average, to live for another 46.9 years, spending 38.6 years in the labour force and the remaining 8.3 in retirement. In part B of the table it may be observed further that persons of age 25 (at last birthday) are entering the labour force at a rate of 11 for every 1,000 in the population at that age while at the same age death is taking its toll of workers at a rate of 1.5 per thousand persons in the labour force. Retirement is seen to be negligible at age 25. At older ages, of course, retirement is of considerable consequence; in the age group 60-64, for example, the average annual rate of retirement is 69.5 per thousand labour force.

A reference to Table 11 serves as illustration for both this table and the one following it. It is noted that for Canada as a whole it would be expected that a newborn infant would live, on average, for 68.4 years, spending 42.1 of them in the labour force and another 26.3 in early childhood, going to school, eventual retirement and, in general, all forms of non-labour force "activity". If the child survives the initial period of relatively high infant mortality, the expectations on his first birthday would be 69.5, 43.5 and 26.0, respectively.

Turning to Table 13, the table of worker rates by cohort, the column representing the experience of males who were born in the 12-month period ended at mid-1871 is considered for purposes of illustration. Since there is no information for the period before 1921, age 50 is the first age for which a worker rate is recorded in the table for this cohort. The rate is 967 in the labour force per thousand population. By age 51 (or year 1922), the worker rate for the cohort had dropped to 965 and by the time the cohort had reached the age of 65 (in the year 1936), its worker rate had fallen to 744. Moving to the column representing the youngest cohort, it is noted that when males born in the 12-month period ended at mid-1941 were 14 years old (in 1955) they had a worker rate of 112 per 1,000. By the time they had reached the age of 20 (in 1961) their rate was 814. Since 1961 is the last year for which data are available, the table is unable to tell us anything about the experience of this cohort beyond the age of 20.

It is appropriate to close with some remarks on the rather considerable shortcomings of the tables presented here. Of the two main pillars on which



these tables rest—the stationary population series and the series of worker rates—the second is undoubtedly the weaker. For the period before 1961, the rates had to be calculated by interpolation using data that were available only for rather broad age groups and that contained, in some cases, substantial elements of estimation. The 1961 series were based on a full range of age detail from census sources and must be presumed to be of better quality. But even here a degree of uncertainty attaches to the series in light of the differences between the census rates and the rates derived from Labour Force Survey age-group data, and the somewhat arbitrary adjustments necessitated by these differences.

It may be assumed, in general, that the 1961 regional figures are less reliable than the corresponding national figures. It may be assumed also that the figures for Canada are more reliable for 1961 than for earlier years. Of the pre-1961 estimates, those for 1951 are almost certainly the most reliable—the interpolation of worker rates was based on more trustworthy data and somewhat greater age detail—and those for 1921 the least reliable. Throughout the tables, those quantities that are in the nature of labour force *flows* are undoubtedly measured with the least precision. They depend largely on *differences* in worker rates from one age to the next and thus are extremely sensitive to errors in the estimation of these rates. This applies to labour force accessions and separations, and most especially to the retirement component of separations, which is measured residually after allowance for deaths. Even the averaging of separations by five-year groups for ages 35 and over falls well short of eliminating this problem.<sup>1</sup>

In view of the uncertain reliability of the worker-rate series, figures for selected ages only or averages for age groups could have been shown in the tables. However, except for the averaging of separation rates for some groups, it was decided instead to present the tables in full detail in order to provide a sharper outline of the male working-life “profile” but with the warning that in some cases the figures for specific years of age may be substantially in error.

<sup>1</sup> The labour force accession and separation rates are presented in the tables as rates per 1,000 with one place shown after the decimal point. However, it should not be assumed that they are accurate to that degree. The aim in showing so many digits is to avoid abrupt and spurious changes from one age to the next as a result of rounding, especially in the case of the relatively low separation rates in the younger ages. Also, it is noted that the expectations of retirement and non-labour force activity are calculated residually by deducting expected working life from total expected life and are subject to some degree of error on this account. In particular, no significance should be attributed to irregular fluctuations of a tenth of a year up or down from one age to the next in the retirement expectations.



## ***Tables 1-13***

Table 1 - Working-Life Table for Males: Canada, 1961  
PART A

Age	Number of persons alive who were $x$ years old at last birthday (assuming 100,000 live births per year)		Labour force per 1,000 population	Average number of years remaining to persons in the labour force at exact age $x$		
	In the population	In the labour force		Years of life	Years of labour force activity	Years of retire- ment
$x$	$L_x$	$Lw_x$	$1,000 w_x$	${}^o e_x$	${}^o ew_x$	${}^o er_x$
14 .....	95,939	9,114	95	57.2	48.9	8.3
15 .....	95,860	17,638	184	56.2	48.0	8.2
16 .....	95,768	31,699	331	55.2	47.0	8.2
17 .....	95,662	45,631	477	54.3	46.1	8.2
18 .....	95,544	59,237	620	53.4	45.1	8.3
19 .....	95,415	70,225	736	52.4	44.2	8.2
20 .....	95,275	77,554	814	51.5	43.2	8.3
21 .....	95,125	81,998	862	50.6	42.3	8.3
22 .....	94,968	84,711	892	49.7	41.4	8.3
23 .....	94,810	86,751	915	48.8	40.4	8.4
24 .....	94,654	88,407	934	47.8	39.5	8.3
25 .....	94,503	89,589	948	46.9	38.6	8.3
26 .....	94,357	90,488	959	46.0	37.6	8.4
27 .....	94,215	91,106	967	45.0	36.7	8.3
28 .....	94,075	91,441	972	44.1	35.7	8.4
29 .....	93,936	91,588	975	43.2	34.8	8.4
30 .....	93,796	91,639	977	42.2	33.8	8.4
31 .....	93,654	91,594	978	41.3	32.9	8.4
32 .....	93,508	91,451	978	40.4	31.9	8.5
33 .....	93,355	91,301	978	39.4	31.0	8.4
34 .....	93,193	91,143	978	38.5	30.0	8.5
35 .....	93,019	90,973	978	37.6	29.1	8.5
36 .....	92,832	90,790	978	36.6	28.1	8.5
37 .....	92,631	90,593	978	35.7	27.2	8.5
38 .....	92,414	90,288	977	34.8	26.3	8.5
39 .....	92,181	89,969	976	33.9	25.4	8.5
40 .....	91,931	89,633	975	33.0	24.5	8.5
41 .....	91,660	89,277	974	32.0	23.5	8.5
42 .....	91,364	88,897	973	31.2	22.6	8.6
43 .....	91,037	88,488	972	30.3	21.7	8.6
44 .....	90,676	88,046	971	29.4	20.8	8.6
45 .....	90,275	87,567	970	28.5	20.0	8.5
46 .....	89,832	86,957	968	27.6	19.1	8.5
47 .....	89,341	86,303	966	26.8	18.2	8.6
48 .....	88,800	85,514	963	25.9	17.4	8.5
49 .....	88,206	84,678	960	25.1	16.5	8.6

**Table 1 – Working-Life Table for Males: Canada, 1961**  
**PART A – concluded**

Age	Number of persons alive who were x years old at last birthday (assuming 100,000 live births per year)		Labour force per 1,000 population	Average number of years remaining to persons in the labour force at exact age x		
	In the population	In the labour force		Years of life	Years of labour force activity	Years of retire- ment
x	$L_x$	$Lw_x$	1,000 $w_x$	${}^0e_x$	${}^0ew_x$	${}^0er_x$
50 .....	87,556	83,704	956	24.2	15.7	8.5
51 .....	86,846	82,677	952	23.4	14.9	8.5
52 .....	86,068	81,506	947	22.6	14.1	8.5
53 .....	85,215	80,272	942	21.8	13.3	8.5
54 .....	84,283	78,889	936	21.1	12.5	8.6
55 .....	83,267	77,355	929	20.3	11.7	8.6
56 .....	82,161	75,588	920	19.6	10.9	8.7
57 .....	80,962	73,594	909	18.8	10.2	8.6
58 .....	79,666	71,301	895	18.1	9.5	8.6
59 .....	78,269	68,642	877	17.4	8.8	8.6
60 .....	76,771	65,639	855	16.7	8.2	8.5
61 .....	75,169	62,240	828	16.1	7.5	8.6
62 .....	73,462	58,476	796	15.4	7.0	8.4
63 .....	71,654	54,099	755	14.8	6.4	8.4
64 .....	69,749	49,801	714	14.1	5.9	8.2
65 .....	67,752	39,838	588	13.5	5.7	7.8
66 .....	65,659	35,456	540	12.9	5.8	7.1
67 .....	63,465	31,225	492	12.3	5.5	6.8
68 .....	61,162	27,095	443	11.8	5.2	6.6
69 .....	58,750	23,206	395	11.2	4.9	6.3
70 .....	56,232	18,613	331	10.7	4.8	5.9
71 .....	53,614	15,602	291	10.1	4.8	5.3
72 .....	50,900	12,776	251	9.6	4.7	4.9
73 .....	48,103	10,535	219	9.1	4.6	4.5
74 .....	45,238	8,731	193	8.7	4.4	4.3
75 .....	42,322	7,195	170	8.2	4.3	3.9
76 .....	39,370	5,866	149	7.8	4.1	3.7
77 .....	36,391	4,731	130	7.3	4.0	3.3
78 .....	33,400	3,774	113	6.9	3.8	3.1
79 .....	30,420	3,012	99	6.5	3.7	2.8
80 .....	27,476	2,335	85	6.1	3.5	2.6
81 .....	24,591	1,820	74	5.8	3.4	2.4
82 .....	21,786	1,394	64	5.4	3.3	2.1
83 .....	19,086	1,069	56	5.1	3.2	1.9
84 .....	16,518	826	50	4.8	3.0	1.8
85 and over <sup>a</sup> .....	68,082	2,028	30	4.5	2.8	1.7

<sup>a</sup> The  $L_x$ ,  $Lw_x$  and  $w_x$  figures relate to all ages 85 and over combined; the  ${}^0e_x$ ,  ${}^0ew_x$  and  ${}^0er_x$  figures relate to exact age 85.

**Table 1 – Working-Life Table for Males: Canada, 1961**  
**PART B**

NOTE. — Figures for a single year of age  $x$  are rates of movement in the interval between  $x$  and  $x + 1$ ; figures for five-year age groups are simple averages of the rates for single years of age.

Age	Labour force accession and separation rates			
	Accessions per 1,000 population	Separations per 1,000 labour force		
		All causes	Death	Retirement
$x$	$1,000 A_x$	$1,000 Q_x^s$	$1,000 Q_x^d$	$1,000 Q_x^r$
14 .....	88.9	0.8	0.8	—
15 .....	146.9	1.0	1.0	—
16 .....	145.8	1.1	1.1	—
17 .....	142.8	1.2	1.2	—
18 .....	115.8	1.4	1.4	—
19 .....	77.9	1.5	1.5	—
20 .....	47.9	1.6	1.6	—
21 .....	30.0	1.7	1.7	—
22 .....	23.0	1.7	1.7	—
23 .....	19.0	1.6	1.6	—
24 .....	14.0	1.6	1.6	—
25 .....	11.0	1.5	1.5	—
26 .....	8.0	1.5	1.5	—
27 .....	5.0	1.5	1.5	—
28 .....	3.0	1.5	1.5	—
29 .....	2.0	1.5	1.5	—
30 .....	1.0	1.5	1.5	—
31 .....	—	1.6	1.6	—
32 .....	—	1.6	1.6	—
33 .....	—	1.7	1.7	—
34 .....	—	1.9	1.9	—
35-39 .....	—	3.0	2.3	0.7
40-44 .....	—	4.7	3.6	1.1
45-49 .....	—	9.0	6.1	2.9
50-54 .....	—	15.6	10.0	5.6
55-59 .....	—	32.3	16.0	16.3
60-64 .....	—	93.3	23.8	69.5
65-69 .....	—	140.6	34.6	106.0
70-74 .....	—	173.1	51.9	121.2
75-79 .....	—	201.4	77.6	123.8
80-84 .....	—	232.7	117.6	115.1

**Table 2 – Working-Life Table for Males: Atlantic Provinces, 1961**  
**PART A**

Age	Number of persons alive who were $x$ years old at last birthday (assuming 100,000 live births per year)		Labour force per 1,000 population	Average number of years remaining to persons in the labour force at exact age $x$		
	In the population	In the labour force		Years of life	Years of labour force activity	Years of retire- ment
$x$	$L_x$	$Lw_x$	$1,000 w_x$	${}^0e_x$	${}^0ew_x$	${}^0er_x$
14 .....	95,413	6,106	64	57.8	48.8	9.0
15 .....	95,326	19,351	203	56.8	47.8	9.0
16 .....	95,223	31,614	332	55.9	46.9	9.0
17 .....	95,104	45,460	478	54.9	45.9	9.0
18 .....	94,973	57,839	609	54.0	45.0	9.0
19 .....	94,834	67,522	712	53.1	44.1	9.0
20 .....	94,688	73,951	781	52.2	43.1	9.1
21 .....	94,536	77,898	824	51.2	42.2	9.0
22 .....	94,380	80,695	855	50.3	41.3	9.0
23 .....	94,222	82,633	877	49.4	40.3	9.1
24 .....	94,065	84,094	894	48.5	39.4	9.1
25 .....	93,910	85,270	908	47.6	38.5	9.1
26 .....	93,758	86,070	918	46.7	37.5	9.2
27 .....	93,607	86,774	927	45.7	36.6	9.1
28 .....	93,456	87,194	933	44.8	35.6	9.2
29 .....	93,302	87,611	939	43.9	34.7	9.2
30 .....	93,145	87,743	942	43.0	33.7	9.3
31 .....	92,983	87,776	944	42.0	32.8	9.2
32 .....	92,815	87,710	945	41.1	31.9	9.2
33 .....	92,640	87,637	946	40.2	30.9	9.3
34 .....	92,457	87,464	946	39.2	30.0	9.2
35 .....	92,265	87,283	946	38.3	29.0	9.3
36 .....	92,063	86,999	945	37.4	28.1	9.3
37 .....	91,847	86,703	944	36.5	27.2	9.3
38 .....	91,617	86,395	943	35.6	26.3	9.3
39 .....	91,370	86,070	942	34.7	25.4	9.3
40 .....	91,106	85,731	941	33.8	24.5	9.3
41 .....	90,821	85,281	939	32.9	23.6	9.3
42 .....	90,513	84,901	938	32.0	22.7	9.3
43 .....	90,179	84,498	937	31.1	21.8	9.3
44 .....	89,819	84,071	936	30.2	20.9	9.3
45 .....	89,429	83,527	934	29.3	20.0	9.3
46 .....	89,005	82,864	931	28.4	19.2	9.2
47 .....	88,542	82,167	928	27.6	18.3	9.3
48 .....	88,034	81,343	924	26.7	17.5	9.2
49 .....	87,475	80,477	920	25.9	16.7	9.2

Table 2 – Working-Life Table for Males: Atlantic Provinces, 1961  
PART A – concluded

Age	Number of persons alive who were $x$ years old at last birthday (assuming 100,000 live births per year)		Labour force per 1,000 population	Average number of years remaining to persons in the labour force at exact age $x$		
	In the population	In the labour force		Years of life	Years of labour force activity	Years of retire- ment
$x$	$L_x$	$Lw_x$	$1,000 w_x$	${}^o e_x$	${}^o ew_x$	${}^o er_x$
50 .....	86,860	79,564	916	25.1	15.9	9.2
51 .....	86,186	78,515	911	24.2	15.0	9.2
52 .....	85,447	77,329	905	23.4	14.3	9.1
53 .....	84,641	76,008	898	22.7	13.5	9.2
54 .....	83,764	74,550	890	21.9	12.7	9.2
55 .....	82,814	72,876	880	21.1	12.0	9.1
56 .....	81,788	71,074	869	20.4	11.3	9.1
57 .....	80,682	68,983	855	19.6	10.5	9.1
58 .....	79,495	66,617	838	18.9	9.9	9.0
59 .....	78,228	63,912	817	18.2	9.2	9.0
60 .....	76,878	60,964	793	17.5	8.6	8.9
61 .....	75,444	57,639	764	16.8	8.1	8.7
62 .....	73,919	53,961	730	16.1	7.5	8.6
63 .....	72,300	49,959	691	15.4	7.1	8.3
64 .....	70,586	46,022	652	14.8	6.6	8.2
65 .....	68,775	36,863	536	14.2	6.5	7.7
66 .....	66,866	33,567	502	13.5	6.6	6.9
67 .....	64,855	30,352	468	12.9	6.3	6.6
68 .....	62,741	27,167	433	12.3	5.9	6.4
69 .....	60,530	24,151	399	11.7	5.6	6.1
70 .....	58,226	20,088	345	11.2	5.4	5.8
71 .....	55,827	17,306	310	10.6	5.3	5.3
72 .....	53,329	14,665	275	10.0	5.1	4.9
73 .....	50,730	12,429	245	9.5	4.9	4.6
74 .....	48,037	10,520	219	9.0	4.7	4.3
75 .....	45,261	8,871	196	8.5	4.5	4.0
76 .....	42,408	7,379	174	8.0	4.3	3.7
77 .....	39,484	6,041	153	7.6	4.1	3.5
78 .....	36,500	4,891	134	7.1	3.9	3.2
79 .....	33,479	3,917	117	6.7	3.7	3.0
80 .....	30,445	3,105	102	6.2	3.6	2.6
81 .....	27,424	2,441	89	5.8	3.4	2.4
82 .....	24,442	1,882	77	5.5	3.2	2.3
83 .....	21,528	1,442	67	5.1	3.1	2.0
84 .....	18,719	1,086	58	4.8	2.9	1.9
85 and over <sup>a</sup> .....	77,216	2,575	33	4.4	2.7	1.7

<sup>a</sup> The  $L_x$ ,  $Lw_x$  and  $w_x$  figures relate to all ages 85 and over combined; the  ${}^o e_x$ ,  ${}^o ew_x$  and  ${}^o er_x$  figures relate to exact age 85.



**Table 2 – Working-Life Table for Males: Atlantic Provinces, 1961**  
**PART B**

NOTE. — Figures for a single year of age  $x$  are rates of movement in the interval between  $x$  and  $x + 1$ ; figures for five-year age groups are simple averages of the rates for single years of age.

Age	Labour force accession and separation rates			
	Accessions per 1,000 population	Separations per 1,000 labour force		
		All causes	Death	Retirement
$x$	$1,000 A_x$	$1,000 Q_x^s$	$1,000 Q_x^d$	$1,000 Q_x^r$
14 .....	138.9	0.9	0.9	—
15 .....	128.9	1.1	1.1	—
16 .....	145.8	1.2	1.2	—
17 .....	130.8	1.4	1.4	—
18 .....	102.8	1.5	1.5	—
19 .....	68.9	1.5	1.5	—
20 .....	42.9	1.6	1.6	—
21 .....	30.9	1.7	1.7	—
22 .....	22.0	1.7	1.7	—
23 .....	17.0	1.7	1.7	—
24 .....	14.0	1.6	1.6	—
25 .....	10.0	1.6	1.6	—
26 .....	9.0	1.6	1.6	—
27 .....	6.0	1.6	1.6	—
28 .....	6.0	1.6	1.6	—
29 .....	3.0	1.7	1.7	—
30 .....	2.0	1.7	1.7	—
31 .....	1.0	1.8	1.8	—
32 .....	1.0	1.9	1.9	—
33 .....	—	2.0	2.0	—
34 .....	—	2.1	2.1	—
35-39 .....	—	3.6	2.5	1.1
40-44 .....	—	5.2	3.7	1.5
45-49 .....	—	9.7	5.8	3.9
50-54 .....	—	17.4	9.4	8.0
55-59 .....	—	35.0	14.6	20.4
60-64 .....	—	94.1	21.2	72.9
65-69 .....	—	113.9	31.4	82.5
70-74 .....	—	150.8	46.5	104.3
75-79 .....	—	189.2	71.7	117.5
80-84 .....	—	236.9	112.6	124.3

Table 3 - Working-Life Table for Males: Quebec, 1961  
PART A

Age	Number of persons alive who were $x$ years old at last birthday (assuming 100,000 live births per year)		Labour force per 1,000 population	Average number of years remaining to persons in the labour force at exact age $x$		
	In the population	In the labour force		Years of life	Years of labour force activity	Years of retire- ment
$x$	$L_x$	$L^w_x$	$1,000 w_x$	$^o e_x$	$^o e^w_x$	$^o e^r_x$
14 .....	95,331	6,387	67	56.5	48.4	8.1
15 .....	95,252	17,145	180	55.5	47.4	8.1
16 .....	95,160	31,022	326	54.6	46.5	8.1
17 .....	95,056	46,102	485	53.6	45.5	8.1
18 .....	94,942	59,719	629	52.7	44.6	8.1
19 .....	94,816	70,259	741	51.8	43.6	8.2
20 .....	94,679	76,974	813	50.8	42.7	8.1
21 .....	94,532	81,297	860	49.9	41.7	8.2
22 .....	94,378	84,185	892	49.0	40.8	8.2
23 .....	94,221	86,306	916	48.0	39.9	8.1
24 .....	94,066	87,858	934	47.1	38.9	8.2
25 .....	93,916	89,032	948	46.2	38.0	8.2
26 .....	93,770	89,738	957	45.3	37.1	8.2
27 .....	93,628	90,257	964	44.4	36.1	8.3
28 .....	93,488	90,496	968	43.4	35.2	8.2
29 .....	93,349	90,548	970	42.5	34.2	8.3
30 .....	93,210	90,600	972	41.5	33.3	8.2
31 .....	93,068	90,555	973	40.6	32.3	8.3
32 .....	92,921	90,412	973	39.7	31.4	8.3
33 .....	92,765	90,260	973	38.7	30.4	8.3
34 .....	92,598	90,098	973	37.8	29.5	8.3
35 .....	92,416	89,921	973	36.9	28.5	8.4
36 .....	92,217	89,635	972	35.9	27.6	8.3
37 .....	92,000	89,424	972	35.0	26.7	8.3
38 .....	91,764	89,103	971	34.1	25.7	8.4
39 .....	91,509	88,855	971	33.2	24.8	8.4
40 .....	91,232	88,495	970	32.3	23.9	8.4
41 .....	90,931	88,112	969	31.4	23.0	8.4
42 .....	90,602	87,612	967	30.5	22.1	8.4
43 .....	90,241	87,083	965	29.6	21.3	8.3
44 .....	89,845	86,521	963	28.7	20.4	8.3
45 .....	89,411	85,924	961	27.9	19.5	8.4
46 .....	88,934	85,288	959	27.0	18.7	8.3
47 .....	88,410	84,520	956	26.2	17.8	8.4
48 .....	87,834	83,706	953	25.3	17.0	8.3
49 .....	87,203	82,843	950	24.5	16.1	8.4

**Table 3 - Working-Life Table for Males: Quebec, 1961**  
**PART A - concluded**

Age	Number of persons alive who were x years old at last birthday (assuming 100,000 live births per year)		Labour force per 1,000 population	Average number of years remaining to persons in the labour force at exact age x		
	In the population	In the labour force		Years of life	Years of labour force activity	Years of retire- ment
x	$L_x$	$Lw_x$	$1,000 w_x$	${}^0e_x$	${}^0ew_x$	${}^0er_x$
50 .....	86,514	81,842	946	23.7	15.3	8.4
51 .....	85,760	80,786	942	22.9	14.5	8.4
52 .....	84,933	79,582	937	22.1	13.7	8.4
53 .....	84,026	78,228	931	21.3	12.9	8.4
54 .....	83,030	76,803	925	20.5	12.1	8.4
55 .....	81,940	75,139	917	19.8	11.4	8.4
56 .....	80,752	73,242	907	19.0	10.6	8.4
57 .....	79,465	71,042	894	18.3	9.9	8.4
58 .....	78,078	68,630	879	17.6	9.2	8.4
59 .....	76,592	65,946	861	17.0	8.5	8.5
60 .....	75,006	63,005	840	16.3	7.9	8.4
61 .....	73,321	59,830	816	15.6	7.3	8.3
62 .....	71,537	56,013	783	15.0	6.7	8.3
63 .....	69,655	50,987	732	14.4	6.2	8.2
64 .....	67,683	46,092	681	13.8	5.8	8.0
65 .....	65,625	36,291	553	13.2	5.7	7.5
66 .....	63,478	32,247	508	12.6	5.7	6.9
67 .....	61,235	28,291	462	12.0	5.4	6.6
68 .....	58,890	24,498	416	11.4	5.2	6.2
69 .....	56,441	20,940	371	10.9	4.9	6.0
70 .....	53,892	16,060	298	10.4	4.9	5.5
71 .....	51,250	13,786	269	9.8	5.0	4.8
72 .....	48,522	11,645	240	9.4	4.8	4.6
73 .....	45,723	9,785	214	8.9	4.6	4.3
74 .....	42,874	8,146	190	8.4	4.4	4.0
75 .....	39,990	6,718	168	8.0	4.2	3.8
76 .....	37,085	5,451	147	7.5	4.1	3.4
77 .....	34,167	4,373	128	7.1	3.9	3.2
78 .....	31,249	3,500	112	6.7	3.8	2.9
79 .....	28,352	2,778	98	6.3	3.7	2.6
80 .....	25,500	2,193	86	5.9	3.5	2.4
81 .....	22,714	1,704	75	5.5	3.3	2.2
82 .....	20,013	1,321	66	5.2	3.2	2.0
83 .....	17,421	1,010	58	4.8	3.0	1.8
84 .....	14,965	748	50	4.5	2.8	1.7
85 and over <sup>a</sup> .....	58,144	1,741	30	4.2	2.7	1.5

<sup>a</sup> The  $L_x$ ,  $Lw_x$  and  $w_x$  figures relate to all ages 85 and over combined; the  ${}^0e_x$ ,  ${}^0ew_x$  and  ${}^0er_x$  figures relate to exact age 85.

**Table 3 – Working-Life Table for Males: Quebec, 1961**  
**PART B**

NOTE. – Figures for a single year of age  $x$  are rates of movement in the interval between  $x$  and  $x + 1$ ; figures for five-year age groups are simple averages of the rates for single years of age.

Age	Labour force accession and separation rates			
	Accessions per 1,000 population	Separations per 1,000 labour force		
		All causes	Death	Retirement
$x$	$1,000 A_x$	$1,000 Q_x^s$	$1,000 Q_x^d$	$1,000 Q_x^r$
14 .....	112.9	0.8	0.8	—
15 .....	145.9	1.0	1.0	—
16 .....	158.8	1.1	1.1	—
17 .....	143.8	1.2	1.2	—
18 .....	111.9	1.3	1.3	—
19 .....	71.9	1.4	1.4	—
20 .....	46.9	1.6	1.6	—
21 .....	31.9	1.6	1.6	—
22 .....	24.0	1.7	1.7	—
23 .....	18.0	1.6	1.6	—
24 .....	14.0	1.6	1.6	—
25 .....	9.0	1.6	1.6	—
26 .....	7.0	1.5	1.5	—
27 .....	4.0	1.5	1.5	—
28 .....	2.0	1.5	1.5	—
29 .....	2.0	1.5	1.5	—
30 .....	1.0	1.5	1.5	—
31 .....	—	1.6	1.6	—
32 .....	—	1.7	1.7	—
33 .....	—	1.8	1.8	—
34 .....	—	2.0	2.0	—
35-39 .....	—	3.2	2.6	0.6
40-44 .....	—	5.9	4.0	1.9
45-49 .....	—	9.7	6.6	3.1
50-54 .....	—	16.9	10.8	6.1
55-59 .....	—	34.6	17.4	17.2
60-64 .....	—	102.5	25.3	77.2
65-69 .....	—	149.3	36.4	112.9
70-74 .....	—	159.9	54.8	105.1
75-79 .....	—	200.6	80.9	119.7
80-84 .....	—	239.5	122.8	116.7

Table 4 - Working-Life Table for Males: Ontario, 1961

## PART A

Age	Number of persons alive who were x years old at last birthday (assuming 100,000 live births per year)		Labour force per 1,000 population	Average number of years remaining to persons in the labour force at exact age x		
	In the population	In the labour force		Years of life	Years of labour force activity	Years of retire- ment
x	$L_x$	$Lw_x$	$1,000 w_x$	$\bar{e}_x$	$\bar{e}w_x$	$\bar{e}r_x$
14.....	96,525	8,108	84	56.7	49.2	7.5
15.....	96,450	19,676	204	55.7	48.3	7.4
16.....	96,363	31,703	329	54.8	47.3	7.5
17.....	96,263	45,147	469	53.8	46.4	7.4
18.....	96,152	58,268	606	52.9	45.4	7.5
19.....	96,030	69,526	724	52.0	44.5	7.5
20.....	95,898	77,581	809	51.0	43.5	7.5
21.....	95,757	82,734	864	50.1	42.6	7.5
22.....	95,610	85,953	899	49.2	41.6	7.6
23.....	95,462	88,207	924	48.2	40.7	7.5
24.....	95,316	89,978	944	47.3	39.8	7.5
25.....	95,176	91,179	958	46.4	38.8	7.6
26.....	95,043	92,097	969	45.5	37.9	7.6
27.....	94,914	92,636	976	44.5	36.9	7.6
28.....	94,788	92,892	980	43.6	36.0	7.6
29.....	94,662	92,958	982	42.6	35.0	7.6
30.....	94,537	93,024	984	41.7	34.1	7.6
31.....	94,409	92,993	985	40.8	33.1	7.7
32.....	94,277	92,863	985	39.8	32.2	7.6
33.....	94,138	92,726	985	38.9	31.2	7.7
34.....	93,990	92,580	985	37.9	30.3	7.6
35.....	93,829	92,421	985	37.0	29.3	7.7
36.....	93,653	92,248	985	36.0	28.4	7.6
37.....	93,463	92,061	985	35.1	27.4	7.7
38.....	93,257	91,858	985	34.2	26.5	7.7
39.....	93,035	91,639	985	33.3	25.5	7.8
40.....	92,798	91,406	985	32.4	24.6	7.8
41.....	92,540	91,152	985	31.4	23.7	7.7
42.....	92,257	90,781	984	30.5	22.7	7.8
43.....	91,939	90,376	983	29.6	21.8	7.8
44.....	91,579	89,931	982	28.7	20.9	7.8
45.....	91,172	89,440	981	27.8	20.0	7.8
46.....	90,712	88,898	980	27.0	19.2	7.8
47.....	90,197	88,303	979	26.1	18.3	7.8
48.....	89,626	87,565	977	25.3	17.4	7.9
49.....	88,997	86,861	976	24.4	16.5	7.9

Table 4 - Working-Life Table for Males: Ontario, 1961

## PART A - concluded

Age	Number of persons alive who were x years old at last birthday (assuming 100,000 live births per year)		Labour force per 1,000 population	Average number of years remaining to persons in the labour force at exact age x		
	In the population	In the labour force		Years of life	Years of labour force activity	Years of retire- ment
x	$L_x$	$Lw_x$	1,000 $w_x$	${}^0e_x$	${}^0ew_x$	${}^0er_x$
50.....	88,310	85,926	973	23.6	15.7	7.9
51.....	87,558	85,019	971	22.8	14.9	7.9
52.....	86,735	83,873	967	22.0	14.0	8.0
53.....	85,830	82,654	963	21.2	13.2	8.0
54.....	84,839	81,276	958	20.4	12.4	8.0
55.....	83,755	79,735	952	19.7	11.6	8.1
56.....	82,574	77,867	943	19.0	10.9	8.1
57.....	81,290	75,762	932	18.2	10.2	8.0
58.....	79,898	73,346	918	17.5	9.4	8.1
59.....	78,393	70,475	899	16.8	8.8	8.0
60.....	76,773	67,176	875	16.2	8.1	8.1
61.....	75,039	63,558	847	15.5	7.5	8.0
62.....	73,192	59,505	813	14.9	7.0	7.9
63.....	71,238	55,209	775	14.2	6.4	7.8
64.....	69,187	50,991	737	13.6	5.9	7.7
65.....	67,045	41,501	619	13.0	5.7	7.3
66.....	64,811	36,942	570	12.5	5.7	6.8
67.....	62,478	32,614	522	11.9	5.3	6.6
68.....	60,037	28,397	473	11.3	5.0	6.3
69.....	57,489	24,375	424	10.8	4.7	6.1
70.....	54,838	19,358	353	10.3	4.6	5.7
71.....	52,089	15,991	307	9.8	4.6	5.2
72.....	49,251	12,854	261	9.3	4.5	4.8
73.....	46,337	10,426	225	8.8	4.4	4.4
74.....	43,365	8,543	197	8.4	4.3	4.1
75.....	40,353	6,981	173	7.9	4.2	3.7
76.....	37,320	5,673	152	7.5	4.1	3.4
77.....	34,281	4,559	133	7.1	3.9	3.2
78.....	31,257	3,626	116	6.7	3.8	2.9
79.....	28,273	2,884	102	6.3	3.6	2.7
80.....	25,355	2,282	90	6.0	3.5	2.5
81.....	22,527	1,757	78	5.6	3.3	2.3
82.....	19,812	1,347	68	5.3	3.2	2.1
83.....	17,231	999	58	5.0	3.0	2.0
84.....	14,809	740	50	4.7	2.9	1.8
85 and over <sup>a</sup> .....	60,217	1,808	30	4.4	2.8	1.6

<sup>a</sup> The  $L_x$ ,  $Lw_x$  and  $w_x$  figures relate to all ages 85 and over combined; the  ${}^0e_x$ ,  ${}^0ew_x$  and  ${}^0er_x$  figures relate to exact age 85.

Table 4 - Working-Life Table for Males: Ontario, 1961

## PART B

NOTE. - Figures for a single year of age  $x$  are rates of movement in the interval between  $x$  and  $x + 1$ ; figures for five-year age groups are simple averages of the rates for single years of age.

Age	Labour force accession and separation rates			
	Accessions per 1,000 population	Separations per 1,000 labour force		
		All causes	Death	Retirement
$x$	$1,000 A_x$	$1,000 Q_x^s$	$1,000 Q_x^d$	$1,000 Q_x^r$
14 .....	119.9	0.8	0.8	-
15 .....	124.9	0.9	0.9	-
16 .....	139.9	1.0	1.0	-
17 .....	136.8	1.2	1.2	-
18 .....	117.9	1.3	1.3	-
19 .....	84.9	1.4	1.4	-
20 .....	54.9	1.5	1.5	-
21 .....	34.9	1.5	1.5	-
22 .....	25.0	1.5	1.5	-
23 .....	20.0	1.5	1.5	-
24 .....	14.0	1.5	1.5	-
25 .....	11.0	1.4	1.4	-
26 .....	7.0	1.4	1.4	-
27 .....	4.0	1.3	1.3	-
28 .....	2.0	1.3	1.3	-
29 .....	2.0	1.3	1.3	-
30 .....	1.0	1.4	1.4	-
31 .....	-	1.4	1.4	-
32 .....	-	1.5	1.5	-
33 .....	-	1.6	1.6	-
34 .....	-	1.7	1.7	-
35-39 .....	-	2.2	2.2	-
40-44 .....	-	4.4	3.5	0.9
45-49 .....	-	8.0	6.3	1.7
50-54 .....	-	14.9	10.5	4.4
55-59 .....	-	33.6	17.1	16.5
60-64 .....	-	90.5	25.8	64.7
65-69 .....	-	140.7	37.3	103.4
70-74 .....	-	184.5	55.7	128.8
75-79 .....	-	200.4	83.5	116.9
80-84 .....	-	246.8	122.8	124.0

**Table 5 – Working-Life Table for Males: Prairie Provinces, 1961**  
**PART A**

Age	Number of persons alive who were x years old at last birthday (assuming 100,000 live births per year)		Labour force per 1,000 population	Average number of years remaining to persons in the labour force at exact age x		
	In the population	In the labour force		Years of life	Years of labour force activity	Years of retire- ment
x	$L_x$	$Lw_x$	$1,000 w_x$	${}^o e_x$	${}^o ew_x$	${}^o er_x$
14 .....	96,117	12,591	131	58.5	50.0	8.5
15 .....	96,040	24,106	251	57.6	49.0	8.6
16 .....	95,945	37,131	387	56.6	48.0	8.6
17 .....	95,836	50,122	523	55.7	47.1	8.6
18 .....	95,714	62,597	654	54.8	46.1	8.7
19 .....	95,580	73,119	765	53.8	45.2	8.6
20 .....	95,435	80,165	840	52.9	44.3	8.6
21 .....	95,282	84,325	885	52.0	43.3	8.7
22 .....	95,123	86,752	912	51.1	42.4	8.7
23 .....	94,960	88,408	931	50.2	41.5	8.7
24 .....	94,800	89,681	946	49.2	40.5	8.7
25 .....	94,644	90,574	957	48.3	39.6	8.7
26 .....	94,494	91,187	965	47.4	38.7	8.7
27 .....	94,348	91,612	971	46.5	37.7	8.8
28 .....	94,204	91,755	974	45.5	36.8	8.7
29 .....	94,061	91,898	977	44.6	35.8	8.8
30 .....	93,918	91,946	979	43.7	34.9	8.8
31 .....	93,774	91,898	980	42.7	34.0	8.7
32 .....	93,628	91,849	981	41.8	33.0	8.8
33 .....	93,479	91,703	981	40.9	32.1	8.8
34 .....	93,325	91,552	981	39.9	31.1	8.8
35 .....	93,166	91,396	981	39.0	30.2	8.8
36 .....	93,000	91,233	981	38.1	29.2	8.9
37 .....	92,824	91,060	981	37.1	28.3	8.8
38 .....	92,635	90,875	981	36.2	27.3	8.9
39 .....	92,431	90,675	981	35.3	26.4	8.9
40 .....	92,209	90,457	981	34.4	25.4	9.0
41 .....	91,968	90,221	981	33.4	24.5	8.9
42 .....	91,703	89,961	981	32.5	23.6	8.9
43 .....	91,412	89,675	981	31.6	22.6	9.0
44 .....	91,090	89,268	980	30.8	21.7	9.1
45 .....	90,736	88,830	979	29.9	20.8	9.1
46 .....	90,347	88,359	978	29.0	19.9	9.1
47 .....	89,921	87,763	976	28.1	19.0	9.1
48 .....	89,457	87,131	974	27.2	18.2	9.0
49 .....	88,953	86,373	971	26.4	17.3	9.1



**Table 5 – Working-Life Table for Males: Prairie Provinces, 1961**  
**PART A – concluded**

Age	Number of persons alive who were x years old at last birthday (assuming 100,000 live births per year)		Labour force per 1,000 population	Average number of years remaining to persons in the labour force at exact age x		
	In the population	In the labour force		Years of life	Years of labour force activity	Years of retire- ment
x	$L_x$	$Lw_x$	$1,000 w_x$	${}^0e_x$	${}^0ew_x$	${}^0er_x$
50 .....	88,409	85,491	967	25.5	16.5	9.0
51 .....	87,821	84,572	963	24.7	15.6	9.1
52 .....	87,181	83,519	958	23.9	14.8	9.1
53 .....	86,482	82,331	952	23.0	14.0	9.0
54 .....	85,719	81,004	945	22.2	13.2	9.0
55 .....	84,887	79,624	938	21.4	12.4	9.0
56 .....	83,980	78,017	929	20.7	11.7	9.0
57 .....	82,993	76,271	919	19.9	10.9	9.0
58 .....	81,920	74,219	906	19.1	10.2	8.9
59 .....	80,756	71,954	891	18.4	9.5	8.9
60 .....	79,498	69,322	872	17.7	8.8	8.9
61 .....	78,141	66,263	848	16.9	8.1	8.8
62 .....	76,682	62,803	819	16.2	7.5	8.7
63 .....	75,118	58,517	779	15.6	6.9	8.7
64 .....	73,454	54,282	739	14.9	6.4	8.5
65 .....	71,688	43,084	601	14.2	6.3	7.9
66 .....	69,814	38,886	557	13.6	6.5	7.1
67 .....	67,821	34,860	514	12.9	6.1	6.8
68 .....	65,696	30,877	470	12.3	5.8	6.5
69 .....	63,434	27,023	426	11.7	5.5	6.2
70 .....	61,033	22,887	375	11.1	5.3	5.8
71 .....	58,497	19,713	337	10.6	5.2	5.4
72 .....	55,834	16,694	299	10.0	5.0	5.0
73 .....	53,059	14,061	265	9.5	4.8	4.7
74 .....	50,195	11,846	236	9.0	4.6	4.4
75 .....	47,257	9,877	209	8.5	4.4	4.1
76 .....	44,256	8,143	184	8.0	4.2	3.8
77 .....	41,196	6,633	161	7.6	4.0	3.6
78 .....	38,086	5,370	141	7.1	3.8	3.3
79 .....	34,948	4,299	123	6.7	3.6	3.1
80 .....	31,808	3,403	107	6.3	3.5	2.8
81 .....	28,686	2,639	92	5.9	3.3	2.6
82 .....	25,604	2,048	80	5.5	3.1	2.4
83 .....	22,589	1,536	68	5.1	2.9	2.2
84 .....	19,675	1,161	59	4.8	2.7	2.1
85 and over <sup>a</sup> .....	81,092	2,513	31	4.4	2.5	1.9

<sup>a</sup> The  $L_x$ ,  $Lw_x$  and  $w_x$  figures relate to all ages 85 and over combined; the  ${}^0e_x$ ,  ${}^0ew_x$  and  ${}^0er_x$  figures relate to exact age 85.

**Table 5 – Working-Life Table for Males: Prairie Provinces, 1961**  
**PART B**

NOTE.—Figures for a single year of age  $x$  are rates of movement in the interval between  $x$  and  $x + 1$ ; figures for five-year age groups are simple averages of the rates for single years of age.

Age	Labour force accession and separation rates			
	Accessions per 1,000 population	Separations per 1,000 labour force		
		All causes	Death	Retirement
$x$	$1,000 A_x$	$1,000 Q_x^s$	$1,000 Q_x^d$	$1,000 Q_x^r$
14 .....	119.9	0.8	0.8	—
15 .....	135.9	1.0	1.0	—
16 .....	135.8	1.1	1.1	—
17 .....	130.8	1.3	1.3	—
18 .....	110.8	1.4	1.4	—
19 .....	74.9	1.5	1.5	—
20 .....	44.9	1.6	1.6	—
21 .....	27.0	1.7	1.7	—
22 .....	19.0	1.7	1.7	—
23 .....	15.0	1.7	1.7	—
24 .....	11.0	1.6	1.6	—
25 .....	8.0	1.6	1.6	—
26 .....	6.0	1.5	1.5	—
27 .....	3.0	1.5	1.5	—
28 .....	3.0	1.5	1.5	—
29 .....	2.0	1.5	1.5	—
30 .....	1.0	1.5	1.5	—
31 .....	1.0	1.6	1.6	—
32 .....	—	1.6	1.6	—
33 .....	—	1.6	1.6	—
34 .....	—	1.7	1.7	—
35-39 .....	—	2.1	2.1	—
40-44 .....	—	3.6	3.2	0.4
45-49 .....	—	7.6	5.2	2.4
50-54 .....	—	14.1	8.1	6.0
55-59 .....	—	27.3	12.9	14.4
60-64 .....	—	88.6	19.7	68.9
65-69 .....	—	118.6	30.2	88.4
70-74 .....	—	154.7	47.2	107.5
75-79 .....	—	191.8	71.5	120.3
80-84 .....	—	243.0	110.8	132.2

Table 6 - Working-Life Table for Males: British Columbia, 1961

## PART A

Age	Number of persons alive who were $x$ years old at last birthday (assuming 100,000 live births per year)		Labour force per 1,000 population	Average number of years remaining to persons in the labour force at exact age $x$		
	In the population	In the labour force		Years of life	Years of labour force activity	Years of retire- ment
$x$	$L_x$	$Lw_x$	$1,000 w_x$	${}^0e_x$	${}^0ew_x$	${}^0er_x$
14 .....	96,338	9,441	98	57.5	47.8	9.7
15 .....	96,260	17,327	180	56.5	46.9	9.6
16 .....	96,166	27,023	281	55.6	45.9	9.7
17 .....	96,057	39,383	410	54.6	45.0	9.6
18 .....	95,933	53,243	555	53.7	44.0	9.7
19 .....	95,791	66,096	690	52.8	43.1	9.7
20 .....	95,632	75,549	790	51.8	42.1	9.7
21 .....	95,457	81,520	854	50.9	41.2	9.7
22 .....	95,271	84,982	892	50.0	40.3	9.7
23 .....	95,080	87,378	919	49.1	39.4	9.7
24 .....	94,891	89,198	940	48.2	38.4	9.8
25 .....	94,708	90,446	955	47.3	37.5	9.8
26 .....	94,531	91,317	966	46.4	36.6	9.8
27 .....	94,360	91,907	974	45.5	35.7	9.8
28 .....	94,191	92,213	979	44.6	34.7	9.9
29 .....	94,023	92,331	982	43.7	33.8	9.9
30 .....	93,854	92,352	984	42.7	32.8	9.9
31 .....	93,682	92,277	985	41.8	31.9	9.9
32 .....	93,507	92,198	986	40.9	31.0	9.9
33 .....	93,327	91,927	985	40.0	30.0	10.0
34 .....	93,139	91,649	984	39.0	29.1	9.9
35 .....	92,941	91,361	983	38.1	28.2	9.9
36 .....	92,733	90,971	981	37.2	27.3	9.9
37 .....	92,512	90,569	979	36.3	26.4	9.9
38 .....	92,279	90,249	978	35.4	25.5	9.9
39 .....	92,032	89,823	976	34.5	24.6	9.9
40 .....	91,770	89,476	975	33.6	23.7	9.9
41 .....	91,490	89,020	973	32.7	22.8	9.9
42 .....	91,190	88,545	971	31.8	22.0	9.8
43 .....	90,864	88,138	970	30.9	21.1	9.8
44 .....	90,511	87,615	968	30.0	20.2	9.8
45 .....	90,128	87,064	966	29.1	19.3	9.8
46 .....	89,708	86,568	965	28.2	18.4	9.8
47 .....	89,247	85,945	963	27.4	17.5	9.9
48 .....	88,739	85,367	962	26.5	16.6	9.9
49 .....	88,177	84,650	960	25.7	15.8	9.9

WORKING-LIFE TABLES FOR CANADIAN MALES

Table 6 - Working-Life Table for Males: British Columbia, 1961  
PART A - concluded

Age	Number of persons alive who were x years old at last birthday (assuming 100,000 live births per year)		Labour force per 1,000 population	Average number of years remaining to persons in the labour force at exact age x		
	In the population	In the labour force		Years of life	Years of labour force activity	Years of retire- ment
x	$L_x$	$Lw_x$	$1,000 w_x$	${}^0e_x$	${}^0ew_x$	${}^0er_x$
50.....	87,558	83,880	958	24.8	14.9	9.9
51.....	86,875	83,139	957	24.0	14.0	10.0
52.....	86,126	82,164	954	23.2	13.2	10.0
53.....	85,308	81,128	951	22.4	12.3	10.1
54.....	84,418	79,944	947	21.6	11.5	10.1
55.....	83,455	78,448	940	20.9	10.7	10.2
56.....	82,414	76,645	930	20.1	9.9	10.2
57.....	81,289	74,461	916	19.4	9.1	10.3
58.....	80,075	71,667	895	18.6	8.4	10.2
59.....	78,770	68,294	867	17.9	7.8	10.1
60.....	77,371	64,218	830	17.2	7.2	10.0
61.....	75,874	59,713	787	16.6	6.6	10.0
62.....	74,272	54,738	737	15.9	6.1	9.8
63.....	72,562	49,342	680	15.2	5.7	9.5
64.....	70,742	44,072	623	14.6	5.3	9.3
65.....	68,812	33,511	487	14.0	5.2	8.8
66.....	66,771	29,513	442	13.4	5.4	8.0
67.....	64,615	25,717	398	12.8	5.1	7.7
68.....	62,347	22,008	353	12.2	4.8	7.4
69.....	59,970	18,471	308	11.6	4.6	7.0
70.....	57,491	14,488	252	11.1	4.5	6.6
71.....	54,914	12,026	219	10.6	4.5	6.1
72.....	52,242	9,717	186	10.1	4.4	5.7
73.....	49,479	7,867	159	9.6	4.3	5.3
74.....	46,636	6,389	137	9.1	4.2	4.9
75.....	43,727	5,160	118	8.7	4.1	4.6
76.....	40,770	4,199	103	8.2	4.0	4.2
77.....	37,784	3,363	89	7.8	3.8	4.0
78.....	34,790	2,644	76	7.4	3.7	3.7
79.....	31,812	2,068	65	7.1	3.5	3.6
80.....	28,876	1,588	55	6.7	3.4	3.3
81.....	26,007	1,196	46	6.4	3.4	3.0
82.....	23,228	906	39	6.0	3.3	2.7
83.....	20,564	699	34	5.7	3.2	2.5
84.....	18,035	523	29	5.4	3.1	2.3
85 and over <sup>a</sup> .....	86,742	1,381	16	5.2	3.0	2.2

<sup>a</sup> The  $L_x$ ,  $Lw_x$  and  $w_x$  figures relate to all ages 85 and over combined; the  ${}^0e_x$ ,  ${}^0ew_x$  and  ${}^0er_x$  figures relate to exact age 85.

Table 6 - Working-Life Table for Males: British Columbia, 1961

## PART B

NOTE. - Figures for a single year of age  $x$  are rates of movement in the interval between  $x$  and  $x + 1$ ; figures for five-year age groups are simple averages of the rates for single years of age.

Age	Labour force accession and separation rates			
	Accessions per 1,000 population	Separations per 1,000 labour force		
		All causes	Death	Retirement
$x$	$1,000 A_x$	$1,000 Q_x^s$	$1,000 Q_x^d$	$1,000 Q_x^r$
14 .....	81.9	0.8	0.8	—
15 .....	100.9	1.0	1.0	—
16 .....	128.9	1.1	1.1	—
17 .....	144.8	1.3	1.3	—
18 .....	134.8	1.5	1.5	—
19 .....	99.8	1.7	1.7	—
20 .....	63.9	1.8	1.8	—
21 .....	37.9	1.9	1.9	—
22 .....	26.9	2.0	2.0	—
23 .....	21.0	2.0	2.0	—
24 .....	15.0	1.9	1.9	—
25 .....	11.0	1.9	1.9	—
26 .....	8.0	1.8	1.8	—
27 .....	5.0	1.8	1.8	—
28 .....	3.0	1.8	1.8	—
29 .....	2.0	1.8	1.8	—
30 .....	1.0	1.8	1.8	—
31 .....	1.0	1.9	1.9	—
32 .....	—	2.9	1.9	1.0
33 .....	—	3.0	2.0	1.0
34 .....	—	3.1	2.1	1.0
35-39 .....	—	4.2	2.5	1.7
40-44 .....	—	5.4	3.6	1.8
45-49 .....	—	7.4	5.8	1.6
50-54 .....	—	13.3	9.5	3.8
55-59 .....	—	39.2	14.8	24.4
60-64 .....	—	119.7	22.0	97.7
65-69 .....	—	153.7	33.1	120.6
70-74 .....	—	186.5	49.6	136.9
75-79 .....	—	209.8	74.2	135.6
80-84 .....	—	238.2	107.7	130.5

**Table 7 - Working-Life Table for Males: Canada, 1951**  
**PART A**

Age	Number of persons alive who were x years old at last birthday (assuming 100,000 live births per year)		Labour force per 1,000 population	Average number of years remaining to persons in the labour force at exact age x		
	In the population	In the labour force		Years of life	Years of labour force activity	Years of retire- ment
<i>x</i>	<i>L<sub>x</sub></i>	<i>Lw<sub>x</sub></i>	<i>1,000 w<sub>x</sub></i>	<i>e<sub>x</sub></i>	<i>e<sub>w</sub></i>	<i>e<sub>r</sub></i>
14.....	94,130	11,672	124	56.3	48.8	7.5
15.....	94,030	26,328	280	55.4	47.9	7.5
16.....	93,917	43,765	466	54.5	46.9	7.6
17.....	93,793	58,152	620	53.5	46.0	7.5
18.....	93,658	69,026	737	52.6	45.0	7.6
19.....	93,513	76,213	815	51.7	44.1	7.6
20.....	93,356	80,379	861	50.8	43.2	7.6
21.....	93,192	83,127	892	49.8	42.2	7.6
22.....	93,020	85,020	914	48.9	41.3	7.6
23.....	92,845	86,531	932	48.0	40.4	7.6
24.....	92,672	87,668	946	47.1	39.5	7.6
25.....	92,502	88,432	956	46.2	38.5	7.7
26.....	92,334	88,918	963	45.3	37.6	7.7
27.....	92,170	89,313	969	44.4	36.7	7.7
28.....	92,004	89,520	973	43.4	35.7	7.7
29.....	91,836	89,632	976	42.5	34.8	7.7
30.....	91,665	89,557	977	41.6	33.9	7.7
31.....	91,489	89,476	978	40.7	32.9	7.8
32.....	91,306	89,297	978	39.8	32.0	7.8
33.....	91,118	89,113	978	38.8	31.1	7.7
34.....	90,923	88,923	978	37.9	30.1	7.8
35.....	90,721	88,725	978	37.0	29.2	7.8
36.....	90,510	88,519	978	36.1	28.2	7.9
37.....	90,285	88,208	977	35.2	27.3	7.9
38.....	90,044	87,883	976	34.2	26.4	7.8
39.....	89,784	87,450	974	33.4	25.5	7.9
40.....	89,502	87,085	973	32.4	24.7	7.7
41.....	89,194	86,607	971	31.6	23.8	7.8
42.....	88,859	86,104	969	30.7	22.9	7.8
43.....	88,490	85,570	967	29.8	22.0	7.8
44.....	88,088	85,005	965	28.9	21.2	7.7
45.....	87,646	84,403	963	28.0	20.3	7.7
46.....	87,164	83,852	962	27.2	19.5	7.7
47.....	86,634	83,169	960	26.4	18.6	7.8
48.....	86,053	82,439	958	25.5	17.7	7.8
49.....	85,416	81,572	955	24.7	16.9	7.8

**Table 7 - Working-Life Table for Males: Canada, 1951**  
**PART A - concluded**

Age	Number of persons alive who were $x$ years old at last birthday (assuming 100,000 live births per year)		Labour force per 1,000 population	Average number of years remaining to persons in the labour force at exact age $x$		
	In the population	In the labour force		Years of life	Years of labour force activity	Years of retire- ment
$x$	$L_x$	$Lw_x$	$1,000 w_x$	${}^0e_x$	${}^0ew_x$	${}^0er_x$
50.....	84,721	80,570	951	23.9	16.1	7.8
51.....	83,963	79,429	946	23.1	15.3	7.8
52.....	83,136	78,148	940	22.3	14.5	7.8
53.....	82,239	76,893	935	21.5	13.8	7.7
54.....	81,267	75,497	929	20.8	13.0	7.8
55.....	80,218	74,041	923	20.0	12.2	7.8
56.....	79,087	72,365	915	19.3	11.5	7.8
57.....	77,871	70,473	905	18.6	10.8	7.8
58.....	76,566	68,373	893	17.9	10.1	7.8
59.....	75,167	65,997	878	17.2	9.4	7.8
60.....	73,673	63,211	858	16.5	8.7	7.8
61.....	72,083	59,901	831	15.8	8.1	7.7
62.....	70,398	56,037	796	15.2	7.6	7.6
63.....	68,623	51,673	753	14.6	7.1	7.5
64.....	66,764	47,135	706	13.9	6.7	7.2
65.....	64,826	40,970	632	13.3	6.5	6.8
66.....	62,808	36,554	582	12.7	6.3	6.4
67.....	60,699	32,292	532	12.1	6.1	6.0
68.....	58,494	28,253	483	11.5	5.8	5.7
69.....	56,193	24,332	433	11.0	5.6	5.4
70.....	53,800	20,444	380	10.4	5.5	4.9
71.....	51,312	17,343	338	9.9	5.5	4.4
72.....	48,723	14,763	303	9.4	5.3	4.1
73.....	46,033	12,567	273	8.8	5.2	3.6
74.....	43,249	10,682	247	8.4	5.0	3.4
75.....	40,384	9,046	224	7.9	4.8	3.1
76.....	37,453	7,640	204	7.4	4.6	2.8
77.....	34,477	6,378	185	7.0	4.4	2.6
78.....	31,477	5,288	168	6.6	4.2	2.4
79.....	28,484	4,358	153	6.2	4.0	2.2
80.....	25,529	3,549	139	5.8	3.8	2.0
81.....	22,644	2,853	126	5.5	3.6	1.9
82.....	19,859	2,244	113	5.2	3.4	1.8
83.....	17,206	1,755	102	4.8	3.2	1.6
84.....	14,713	1,339	91	4.6	3.0	1.6
85 and over <sup>a</sup> .....	57,682	3,258	56	4.3	2.8	1.5

<sup>a</sup> The  $L_x$ ,  $Lw_x$  and  $w_x$  figures relate to all ages 85 and over combined; the  ${}^0e_x$ ,  ${}^0ew_x$  and  ${}^0er_x$  figures relate to exact age 85.

**Table 7 - Working-Life Table for Males: Canada, 1951**  
**PART B**

NOTE.— Figures for a single year of age  $x$  are rates of movement in the interval between  $x$  and  $x + 1$ ; figures for five-year age groups are simple averages of the rates for single years of age.

Age	Labour force accession and separation rates			
	Accessions per 1,000 population	Separations per 1,000 labour force		
		All causes	Death	Retirement
$x$	$1,000 A_x$	$1,000 Q_x^s$	$1,000 Q_x^d$	$1,000 Q_x^r$
14.....	155.8	1.1	1.1	—
15.....	185.8	1.2	1.2	—
16.....	153.8	1.3	1.3	—
17.....	116.8	1.4	1.4	—
18.....	77.9	1.5	1.5	—
19.....	45.9	1.7	1.7	—
20.....	30.9	1.8	1.8	—
21.....	22.0	1.8	1.8	—
22.....	18.0	1.9	1.9	—
23.....	14.0	1.9	1.9	—
24.....	10.0	1.8	1.8	—
25.....	7.0	1.8	1.8	—
26.....	6.0	1.8	1.8	—
27.....	4.0	1.8	1.8	—
28.....	3.0	1.8	1.8	—
29.....	1.0	1.9	1.9	—
30.....	1.0	1.9	1.9	—
31.....	—	2.0	2.0	—
32.....	—	2.1	2.1	—
33.....	—	2.1	2.1	—
34.....	—	2.2	2.2	—
35-39.....	—	3.7	2.7	1.0
40-44.....	—	6.2	4.2	2.0
45-49.....	—	9.2	6.8	2.4
50-54.....	—	16.8	10.8	6.0
55-59.....	—	31.1	16.7	14.4
60-64.....	—	82.7	24.5	58.2
65-69.....	—	129.6	34.8	94.8
70-74.....	—	150.5	53.1	97.4
75-79.....	—	170.6	83.8	86.8
80-84.....	—	222.8	127.9	94.9



Table 8 - Working-Life Table for Males: Canada, 1941

## PART A

Age	Number of persons alive who were x years old at last birthday (assuming 100,000 live births per year)		Labour force per 1,000 population	Average number of years remaining to persons in the labour force at exact age x		
	In the population	In the labour force		Years of life	Years of labour force activity	Years of retire- ment
x	$L_x$	$Lw_x$	1,000 $w_x$	${}^0e_x$	${}^0ew_x$	${}^0er_x$
14.....	90,968	11,007	121	55.0	49.0	6.0
15.....	90,827	34,787	383	54.1	48.1	6.0
16.....	90,671	47,149	520	53.2	47.2	6.0
17.....	90,500	58,825	650	52.2	46.2	6.0
18.....	90,315	67,014	742	51.4	45.3	6.1
19.....	90,116	72,994	810	50.5	44.4	6.1
20.....	89,906	77,229	859	49.6	43.5	6.1
21.....	89,683	80,087	893	48.7	42.6	6.1
22.....	89,453	82,118	918	47.8	41.7	6.1
23.....	89,218	83,508	936	46.9	40.8	6.1
24.....	88,984	84,535	950	46.1	39.9	6.2
25.....	88,753	85,203	960	45.2	39.0	6.2
26.....	88,526	85,605	967	44.3	38.1	6.2
27.....	88,302	85,829	972	43.4	37.2	6.2
28.....	88,078	85,876	975	42.5	36.3	6.2
29.....	87,854	85,833	977	41.6	35.4	6.2
30.....	87,627	85,699	978	40.7	34.5	6.2
31.....	87,397	85,474	978	39.8	33.6	6.2
32.....	87,161	85,243	978	38.9	32.7	6.2
33.....	86,918	85,006	978	38.0	31.8	6.2
34.....	86,663	84,756	978	37.2	30.9	6.3
35.....	86,396	84,495	978	36.3	30.0	6.3
36.....	86,114	84,219	978	35.4	29.1	6.3
37.....	85,815	83,927	978	34.5	28.2	6.3
38.....	85,500	83,533	977	33.7	27.3	6.4
39.....	85,164	83,120	976	32.7	26.4	6.3
40.....	84,810	82,774	976	31.9	25.5	6.4
41.....	84,435	82,324	975	31.0	24.6	6.4
42.....	84,035	81,850	974	30.1	23.8	6.3
43.....	83,610	81,436	974	29.3	22.9	6.4
44.....	83,158	80,913	973	28.4	22.0	6.4
45.....	82,676	80,361	972	27.6	21.2	6.4
46.....	82,164	79,781	971	26.8	20.3	6.5
47.....	81,614	79,166	970	25.9	19.5	6.4
48.....	81,022	78,591	970	25.1	18.6	6.5
49.....	80,382	77,890	969	24.3	17.8	6.5

**Table 8 – Working-Life Table for Males: Canada, 1941**  
**PART A – concluded**

Age	Number of persons alive who were x years old at last birthday (assuming 100,000 live births per year)		Labour force per 1,000 population	Average number of years remaining to persons in the labour force at exact age x		
	In the population	In the labour force		Years of life	Years of labour force activity	Years of retire- ment
x	$L_x$	$Lw_x$	$1,000 w_x$	${}^0e_x$	${}^0ew_x$	${}^0er_x$
50 .....	79,693	77,063	967	23.5	16.9	6.6
51 .....	78,949	76,186	965	22.7	16.1	6.6
52 .....	78,147	75,177	962	21.9	15.3	6.6
53 .....	77,285	74,039	958	21.2	14.5	6.7
54 .....	76,360	72,771	953	20.4	13.7	6.7
55 .....	75,371	71,452	948	19.6	13.0	6.6
56 .....	74,315	69,930	941	18.9	12.2	6.7
57 .....	73,185	68,282	933	18.2	11.5	6.7
58 .....	71,974	66,504	924	17.5	10.8	6.7
59 .....	70,682	64,391	911	16.8	10.1	6.7
60 .....	69,305	62,028	895	16.1	9.4	6.7
61 .....	67,837	59,222	873	15.4	8.8	6.6
62 .....	66,275	56,002	845	14.7	8.2	6.5
63 .....	64,613	52,401	811	14.1	7.7	6.4
64 .....	62,849	48,331	769	13.4	7.3	6.1
65 .....	60,986	43,971	721	12.8	6.9	5.9
66 .....	59,019	39,484	669	12.2	6.6	5.6
67 .....	56,943	35,077	616	11.6	6.3	5.3
68 .....	54,757	30,883	564	11.0	6.0	5.0
69 .....	52,465	26,967	514	10.5	5.8	4.7
70 .....	50,073	23,484	469	9.9	5.6	4.3
71 .....	47,583	20,223	425	9.4	5.4	4.0
72 .....	44,993	17,322	385	8.9	5.2	3.7
73 .....	42,305	14,764	349	8.4	5.0	3.4
74 .....	39,529	12,531	317	7.9	4.8	3.1
75 .....	36,683	10,528	287	7.5	4.6	2.9
76 .....	33,786	8,784	260	7.0	4.4	2.6
77 .....	30,866	7,284	236	6.6	4.2	2.4
78 .....	27,947	5,981	214	6.2	4.0	2.2
79 .....	25,064	4,862	194	5.9	3.8	2.1
80 .....	22,248	3,893	175	5.5	3.5	2.0
81 .....	19,531	3,086	158	5.2	3.3	1.9
82 .....	16,943	2,389	141	4.9	3.1	1.8
83 .....	14,510	1,799	124	4.6	2.9	1.7
84 .....	12,260	1,349	110	4.3	2.8	1.5
85 and over <sup>a</sup> .....	45,342	2,993	66	4.0	2.6	1.4

<sup>a</sup> The  $L_x$ ,  $Lw_x$  and  $w_x$  figures relate to all ages 85 and over combined; the  ${}^0e_x$ ,  ${}^0ew_x$  and  ${}^0er_x$  figures relate to exact age 85.

**Table 8 – Working-Life Table for Males: Canada, 1941**  
**PART B**

NOTE.—Figures for a single year of age  $x$  are rates of movement in the interval between  $x$  and  $x + 1$ ; figures for five-year age groups are simple averages of the rates for single years of age.

Age	Labour force accession and separation rates			
	Accessions per 1,000 population	Separations per 1,000 labour force		
		All causes	Death	Retirement
$x$	$1,000 A_x$	$1,000 Q_x^s$	$1,000 Q_x^d$	$1,000 Q_x^r$
14 .....	261.6	1.5	1.5	—
15 .....	136.8	1.7	1.7	—
16 .....	129.8	1.9	1.9	—
17 .....	91.8	2.0	2.0	—
18 .....	67.9	2.2	2.2	—
19 .....	48.9	2.3	2.3	—
20 .....	33.9	2.5	2.5	—
21 .....	24.9	2.6	2.6	—
22 .....	18.0	2.6	2.6	—
23 .....	14.0	2.6	2.6	—
24 .....	10.0	2.6	2.6	—
25 .....	7.0	2.6	2.6	—
26 .....	5.0	2.5	2.5	—
27 .....	3.0	2.5	2.5	—
28 .....	2.0	2.5	2.5	—
29 .....	1.0	2.6	2.6	—
30 .....	—	2.6	2.6	—
31 .....	—	2.7	2.7	—
32 .....	—	2.8	2.8	—
33 .....	—	2.9	2.9	—
34 .....	—	3.1	3.1	—
35-39 .....	—	4.1	3.7	0.4
40-44 .....	—	5.9	5.1	0.8
45-49 .....	—	8.3	7.3	1.0
50-54 .....	—	15.0	11.0	4.0
55-59 .....	—	27.9	16.5	11.4
60-64 .....	—	66.4	24.7	41.7
65-69 .....	—	117.8	37.1	80.7
70-74 .....	—	148.2	57.6	90.6
75-79 .....	—	180.3	90.8	89.5
80-84 .....	—	240.8	136.5	104.3

Table 9 - Working-Life Table for Males: Canada, 1931  
PART A

Age	Number of persons alive who were $x$ years old at last birthday (assuming 100,000 live births per year)		Labour force, per 1,000 population	Average number of years remaining to persons in the labour force at exact age $x$		
	In the population	In the labour force		Years of life	Years of labour force activity	Years of retire- ment
$x$	$L_x$	$Lw_x$	$1,000 w_x$	${}^a e_x$	${}^a ew_x$	${}^o er_x$
14.....	87,440	20,811	238	54.3	48.9	5.4
15.....	87,271	34,472	395	53.4	48.0	5.4
16.....	87,079	48,677	559	52.5	47.1	5.4
17.....	86,867	60,286	694	51.6	46.2	5.4
18.....	86,639	68,618	792	50.8	45.3	5.5
19.....	86,395	73,608	852	49.9	44.4	5.5
20.....	86,136	76,575	889	49.0	43.5	5.5
21.....	85,865	78,395	913	48.2	42.7	5.5
22.....	85,582	79,677	931	47.4	41.8	5.6
23.....	85,294	80,518	944	46.5	40.9	5.6
24.....	85,004	81,094	954	45.7	40.1	5.6
25.....	84,715	81,496	962	44.8	39.2	5.6
26.....	84,427	81,810	969	44.0	38.3	5.7
27.....	84,141	81,869	973	43.1	37.5	5.6
28.....	83,856	81,843	976	42.3	36.6	5.7
29.....	83,571	81,649	977	41.4	35.7	5.7
30.....	83,287	81,455	978	40.6	34.8	5.8
31.....	83,002	81,176	978	39.7	34.0	5.7
32.....	82,713	80,893	978	38.8	33.1	5.7
33.....	82,417	80,604	978	38.0	32.2	5.8
34.....	82,110	80,303	978	37.1	31.3	5.8
35.....	81,791	79,992	978	36.2	30.4	5.8
36.....	81,457	79,665	978	35.4	29.5	5.9
37.....	81,108	79,324	978	34.5	28.7	5.8
38.....	80,747	78,890	977	33.7	27.8	5.9
39.....	80,371	78,442	976	32.8	26.9	5.9
40.....	79,982	78,062	976	32.0	26.1	5.9
41.....	79,578	77,588	975	31.1	25.2	5.9
42.....	79,157	77,099	974	30.3	24.4	5.9
43.....	78,717	76,670	974	29.5	23.5	6.0
44.....	78,259	76,146	973	28.6	22.7	5.9
45.....	77,778	75,600	972	27.8	21.8	6.0
46.....	77,274	75,033	971	27.0	21.0	6.0
47.....	76,740	74,438	970	26.1	20.1	6.0
48.....	76,171	73,886	970	25.3	19.3	6.0
49.....	75,560	73,218	969	24.5	18.4	6.1

Table 9 - Working-Life Table for Males: Canada, 1931  
PART A - concluded

Age	Number of persons alive who were $x$ years old at last birthday (assuming 100,000 live births per year)		Labour force per 1,000 population	Average number of years remaining to persons in the labour force at exact age $x$		
	In the population	In the labour force		Years of life	Years of labour force activity	Years of retire- ment
$x$	$L_x$	$Lw_x$	$1,000 w_x$	${}^0e_x$	${}^0ew_x$	${}^0er_x$
50.....	74,904	72,432	967	23.7	17.6	6.1
51.....	74,200	71,603	965	22.9	16.8	6.1
52.....	73,444	70,653	962	22.2	16.0	6.2
53.....	72,634	69,656	959	21.4	15.2	6.2
54.....	71,771	68,469	954	20.6	14.5	6.1
55.....	70,852	67,238	949	19.9	13.7	6.2
56.....	69,874	65,891	943	19.1	13.0	6.1
57.....	68,832	64,358	935	18.4	12.2	6.2
58.....	67,725	62,713	926	17.7	11.5	6.2
59.....	66,550	60,827	914	17.0	10.9	6.1
60.....	65,307	58,711	899	16.3	10.2	6.1
61.....	63,990	56,311	880	15.6	9.6	6.0
62.....	62,591	53,703	858	14.9	9.0	5.9
63.....	61,097	50,833	832	14.3	8.4	5.9
64.....	59,505	47,723	802	13.6	7.9	5.7
65.....	57,811	44,399	768	13.0	7.4	5.6
66.....	56,011	40,776	728	12.4	7.0	5.4
67.....	54,103	37,006	684	11.8	6.6	5.2
68.....	52,084	33,230	638	11.2	6.3	4.9
69.....	49,964	29,479	590	10.6	6.0	4.6
70.....	47,747	25,974	544	10.1	5.7	4.4
71.....	45,433	22,671	499	9.5	5.4	4.1
72.....	43,021	19,618	456	9.0	5.2	3.8
73.....	40,510	16,771	414	8.5	4.9	3.6
74.....	37,910	14,178	374	8.0	4.7	3.3
75.....	35,235	11,874	337	7.6	4.5	3.1
76.....	32,504	9,784	301	7.1	4.3	2.8
77.....	29,742	8,001	269	6.7	4.1	2.6
78.....	26,979	6,475	240	6.3	4.0	2.3
79.....	24,243	5,212	215	6.0	3.8	2.2
80.....	21,568	4,163	193	5.6	3.7	1.9
81.....	18,981	3,303	174	5.3	3.5	1.8
82.....	16,510	2,559	155	5.0	3.3	1.7
83.....	14,181	1,971	139	4.6	3.1	1.5
84.....	12,016	1,490	124	4.4	3.0	1.4
85 and over <sup>a</sup> .....	45,049	3,661	81	4.1	2.8	1.3

<sup>a</sup> The  $L_x$ ,  $Lw_x$  and  $w_x$  figures relate to all ages 85 and over combined; the  ${}^0e_x$ ,  ${}^0ew_x$  and  ${}^0er_x$  figures relate to exact age 85.

Table 9 - Working-Life Table for Males: Canada, 1931  
PART B

NOTE.— Figures for a single year of age  $x$  are rates of movement in the interval between  $x$  and  $x + 1$ ; figures for five-year age groups are simple averages of the rates for single years of age.

Age	Labour force accession and separation rates			
	Accessions per 1,000 population	Separations per 1,000 labour force		
		All causes	Death	Retirement
$x$	$1,000 A_x$	$1,000 Q_x^s$	$1,000 Q_x^d$	$1,000 Q_x^r$
14 .....	156.7	1.9	1.9	—
15 .....	163.6	2.2	2.2	—
16 .....	134.7	2.4	2.4	—
17 .....	97.7	2.6	2.6	—
18 .....	59.8	2.8	2.8	—
19 .....	36.9	3.0	3.0	—
20 .....	23.9	3.1	3.1	—
21 .....	17.9	3.3	3.3	—
22 .....	13.0	3.4	3.4	—
23 .....	10.0	3.4	3.4	—
24 .....	8.0	3.4	3.4	—
25 .....	7.0	3.4	3.4	—
26 .....	4.0	3.4	3.4	—
27 .....	3.0	3.4	3.4	—
28 .....	1.0	3.4	3.4	—
29 .....	1.0	3.4	3.4	—
30 .....	—	3.4	3.4	—
31 .....	—	3.5	3.5	—
32 .....	—	3.6	3.6	—
33 .....	—	3.7	3.7	—
34 .....	—	3.9	3.9	—
35-39 .....	—	4.9	4.5	0.4
40-44 .....	—	6.4	5.6	0.8
45-49 .....	—	8.5	7.5	1.0
50-54 .....	—	14.8	11.1	3.7
55-59 .....	—	26.8	16.1	10.7
60-64 .....	—	54.3	23.7	30.6
65-69 .....	—	101.6	36.3	65.3
70-74 .....	—	144.8	56.3	88.5
75-79 .....	—	189.1	88.7	100.4
80-84 .....	—	231.6	134.9	96.7

Table 10 - Partial Working-Life Table for Males: Canada, 1921

Age	Labour force per 1,000 population	Average number of years remaining to persons in the labour force at exact age $x$		
		Years of life	Years of labour force activity	Years of retirement
$x$	$1,000 w_x$	${}^0e_x$	${}^0ew_x$	${}^0er_x$
14 .....	366	53.5	48.6	4.9
15 .....	540	52.6	47.7	4.9
16 .....	678	51.8	46.8	5.0
17 .....	770	50.9	45.9	5.0
18 .....	827	50.1	45.1	5.0
19 .....	868	49.2	44.2	5.0
20 .....	897	48.4	43.4	5.0
21 .....	919	47.6	42.6	5.0
22 .....	936	46.8	41.8	5.0
23 .....	950	46.0	40.9	5.1
24 .....	960	45.2	40.1	5.1
25 .....	967	44.4	39.2	5.2
26 .....	972	43.6	38.4	5.2
27 .....	975	42.7	37.5	5.2
28 .....	977	41.9	36.7	5.2
29 .....	978	41.1	35.8	5.3
30 .....	978	40.2	35.0	5.2
31 .....	978	39.4	34.1	5.3
32 .....	978	38.5	33.2	5.3
33 .....	978	37.7	32.4	5.3
34 .....	978	36.8	31.5	5.3
35 .....	978	36.0	30.6	5.4
36 .....	978	35.2	29.7	5.5
37 .....	978	34.3	28.9	5.4
38 .....	977	33.5	28.1	5.4
39 .....	976	32.7	27.3	5.4
40 .....	976	31.8	26.4	5.4
41 .....	975	31.0	25.6	5.4
42 .....	974	30.2	24.7	5.5
43 .....	974	29.4	23.9	5.5
44 .....	973	28.5	23.0	5.5
45 .....	972	27.7	22.2	5.5
46 .....	971	26.9	21.4	5.5
47 .....	970	26.1	20.5	5.6
48 .....	970	25.3	19.7	5.6
49 .....	969	24.5	18.8	5.7

Table 10 - Partial Working-Life Table for Males:  
Canada, 1921 - concluded

Age	Labour force per 1,000 population	Average number of years remaining to persons in the labour force at exact age x		
		Years of life	Years of labour force activity	Years of retirement
x	1,000 w <sub>x</sub>	${}^0e_x$	${}^0ew_x$	${}^0er_x$
50 .....	967	23.7	18.0	5.7
51 .....	965	22.9	17.2	5.7
52 .....	963	22.1	16.4	5.7
53 .....	960	21.4	15.6	5.8
54 .....	957	20.6	14.8	5.8
55 .....	953	19.8	14.0	5.8
56 .....	948	19.1	13.3	5.8
57 .....	943	18.4	12.5	5.9
58 .....	935	17.6	11.8	5.8
59 .....	925	16.9	11.1	5.8
60 .....	912	16.2	10.5	5.7
61 .....	896	15.5	9.9	5.6
62 .....	876	14.9	9.3	5.6
63 .....	852	14.2	8.7	5.5
64 .....	821	13.6	8.2	5.4
65 .....	787	12.9	7.7	5.2
66 .....	748	12.3	7.3	5.0
67 .....	707	11.6	6.9	4.7
68 .....	664	11.0	6.5	4.5
69 .....	620	10.5	6.2	4.3
70 .....	576	9.9	5.8	4.1
71 .....	532	9.4	5.6	3.8
72 .....	489	8.9	5.3	3.6
73 .....	447	8.4	5.1	3.3
74 .....	408	8.0	4.8	3.2
75 .....	371	7.5	4.6	2.9
76 .....	337	7.1	4.4	2.7
77 .....	306	6.7	4.2	2.5
78 .....	278	6.4	4.0	2.4
79 .....	253	6.0	3.8	2.2
80 .....	229	5.7	3.5	2.2
81 .....	205	5.3	3.3	2.0
82 .....	182	5.0	3.1	1.9
83 .....	161	4.7	2.9	1.8
84 .....	142	4.4	2.8	1.6
85 and over <sup>a</sup> .....	83	4.2	2.6	1.6

<sup>a</sup> The w<sub>x</sub> figure relates to all ages 85 and over combined; the  ${}^0e_x$ ,  ${}^0ew_x$  and  ${}^0er_x$  figures relate to exact age 85.



**Table 11 – Average Number of Years of Life, Labour Force Activity and Non-Labour Force Activity Remaining to Males in the Population at Selected Ages: Canada and Regions, 1961**

Item	Exact age x						
	0 (at birth)	1	5	10	15	20	25
<b>Canada –</b>							
Life ( $\bar{e}_x$ ) .....	68.4	69.5	65.8	61.0	56.2	51.5	46.9
Labour force activity ( $\bar{e}_{w'_x}$ ) .....	42.1	43.5	43.7	43.8	43.8	41.7	37.6
Non-labour force activity ( $\bar{e}_{r'_x}$ ) ....	26.3	26.0	22.1	17.2	12.4	9.8	9.3
<b>Atlantic Provinces –</b>							
Life ( $\bar{e}_x$ ) .....	68.6	70.1	66.4	61.6	56.8	52.2	47.6
Labour force activity ( $\bar{e}_{w'_x}$ ) .....	40.4	41.8	42.0	42.2	42.2	40.2	36.3
Non-labour force activity ( $\bar{e}_{r'_x}$ ) ....	28.2	28.3	24.4	19.4	14.6	12.0	11.3
<b>Quebec –</b>							
Life ( $\bar{e}_x$ ) .....	67.3	68.7	65.1	60.3	55.5	50.8	46.2
Labour force activity ( $\bar{e}_{w'_x}$ ) .....	41.2	42.7	42.9	43.1	43.1	41.0	36.9
Non-labour force activity ( $\bar{e}_{r'_x}$ ) ....	26.1	26.0	22.2	17.2	12.4	9.8	9.3
<b>Ontario –</b>							
Life ( $\bar{e}_x$ ) .....	68.3	69.1	65.4	60.6	55.7	51.0	46.4
Labour force activity ( $\bar{e}_{w'_x}$ ) .....	42.9	44.1	44.3	44.4	44.4	42.3	38.2
Non-labour force activity ( $\bar{e}_{r'_x}$ ) ....	25.4	25.0	21.1	16.2	11.3	8.7	8.2
<b>Proirie Provinces –</b>							
Life ( $\bar{e}_x$ ) .....	69.8	71.0	67.3	62.4	57.6	52.9	48.3
Labour force activity ( $\bar{e}_{w'_x}$ ) .....	43.6	45.0	45.2	45.3	45.3	43.0	38.8
Non-labour force activity ( $\bar{e}_{r'_x}$ ) ....	26.2	26.0	22.1	17.1	12.3	9.9	9.5
<b>British Columbia –</b>							
Life ( $\bar{e}_x$ ) .....	68.9	69.8	66.2	61.4	56.5	51.8	47.3
Labour force activity ( $\bar{e}_{w'_x}$ ) .....	41.3	42.4	42.6	42.8	42.8	40.9	36.9
Non-labour force activity ( $\bar{e}_{r'_x}$ ) ....	27.6	27.4	23.6	18.6	13.7	10.9	10.4

**Table 12 – Average Number of Years of Life, Labour Force Activity and Non-Labour Force Activity Remaining to Males in the Population at Selected Ages: Canada, 1921-1961**

Year and item	Exact age x						
	0 (at birth)	1	5	10	15	20	25
<b>1921 –</b>							
Life ( $e_x^0$ ).....	..	..	61.0	57.0	52.6	48.4	44.4
Labour force activity ( $e_{w_x}^0$ ).....	..	..	44.4	45.2	45.2	42.2	38.3
Non-labour force activity ( $e_{r_x}^0$ )....	..	..	16.6	11.8	7.4	6.2	6.1
<b>1931 –</b>							
Life ( $e_x^0$ ).....	60.0	64.7	62.3	58.0	53.4	49.0	44.8
Labour force activity ( $e_{w_x}^0$ ).....	39.6	43.4	44.5	45.0	45.0	42.3	38.3
Non-labour force activity ( $e_{r_x}^0$ )....	20.4	21.3	17.8	13.0	8.4	6.7	6.5
<b>1941 –</b>							
Life ( $e_x^0$ ).....	63.0	66.1	63.2	58.7	54.1	49.6	45.2
Labour force activity ( $e_{w_x}^0$ ).....	40.9	43.6	44.3	44.7	44.9	42.2	38.2
Non-labour force activity ( $e_{r_x}^0$ )....	22.1	22.5	18.9	14.0	9.2	7.4	7.0
<b>1951 –</b>							
Life ( $e_x^0$ ).....	66.3	68.3	64.9	60.2	55.4	50.8	46.2
Labour force activity ( $e_{w_x}^0$ ).....	41.9	43.8	44.2	44.4	44.4	41.8	37.6
Non-labour force activity ( $e_{r_x}^0$ )....	24.4	24.5	20.7	15.8	11.0	9.0	8.6
<b>1961 –</b>							
Life ( $e_x^0$ ).....	68.4	69.5	65.8	61.0	56.2	51.5	46.9
Labour force activity ( $e_{w_x}^0$ ).....	42.1	43.5	43.7	43.8	43.8	41.7	37.6
Non-labour force activity ( $e_{r_x}^0$ )....	26.3	26.0	22.1	17.2	12.4	9.8	9.3

.. Not available.

Table 13 – Male Labour Force per 1,000 Population for Canada  
on a Cohort Basis ( $1,000 w_{xt}$ ) for Selected Years of Birth,  
1851-1941

Age (x)	Year of birth (t)									
	1941	1931	1921	1911	1901	1891	1881	1871	1861	1851
14 .....	112	122	191	315	..	..	..	..	..	..
15 .....	232	332	389	468	..	..	..	..	..	..
16 .....	385	488	536	607	..	..	..	..	..	..
17 .....	520	629	663	717	..	..	..	..	..	..
18 .....	643	738	752	799	..	..	..	..	..	..
19 .....	744	814	814	854	..	..	..	..	..	..
20 .....	814	861	859	889	897	..	..	..	..	..
21 .....	..	889	893	911	918	..	..	..	..	..
22 .....	..	910	917	928	935	..	..	..	..	..
23 .....	..	927	935	942	948	..	..	..	..	..
24 .....	..	941	948	952	958	..	..	..	..	..
25 .....	..	952	958	961	965	..	..	..	..	..
26 .....	..	961	965	968	970	..	..	..	..	..
27 .....	..	968	970	972	974	..	..	..	..	..
28 .....	..	972	973	975	976	..	..	..	..	..
29 .....	..	975	976	977	977	..	..	..	..	..
30 .....	..	977	977	978	978	978	..	..	..	..
31 .....	..	..	978	978	978	978	..	..	..	..
32 .....	..	..	978	978	978	978	..	..	..	..
33 .....	..	..	978	978	978	978	..	..	..	..
34 .....	..	..	978	978	978	978	..	..	..	..
35 .....	..	..	978	978	978	978	..	..	..	..
36 .....	..	..	978	978	978	978	..	..	..	..
37 .....	..	..	978	977	978	978	..	..	..	..
38 .....	..	..	977	976	977	977	..	..	..	..
39 .....	..	..	976	974	976	976	..	..	..	..
40 .....	..	..	975	973	976	976	976	..	..	..
41 .....	..	..	..	971	975	975	975	..	..	..
42 .....	..	..	..	970	973	974	974	..	..	..
43 .....	..	..	..	968	972	974	974	..	..	..
44 .....	..	..	..	967	970	973	973	..	..	..
45 .....	..	..	..	966	967	972	972	..	..	..
46 .....	..	..	..	966	966	971	971	..	..	..
47 .....	..	..	..	964	963	970	970	..	..	..
48 .....	..	..	..	962	960	970	970	..	..	..
49 .....	..	..	..	959	956	969	969	..	..	..

.. Not available.

Table 13 – Male Labour Force per 1,000 Population for Canada  
on a Cohort Basis (1,000  $w_{xt}$ ) for Selected Years of Birth,  
1851-1941 – concluded

Age (x)	Year of birth (t)									
	1941	1931	1921	1911	1901	1891	1881	1871	1861	1851
50 .....	..	..	..	956	951	967	967	967	..	..
51 .....	..	..	..	..	947	963	965	965	..	..
52 .....	..	..	..	..	941	958	962	963	..	..
53 .....	..	..	..	..	937	951	959	960	..	..
54 .....	..	..	..	..	932	943	954	956	..	..
55 .....	..	..	..	..	926	935	948	951	..	..
56 .....	..	..	..	..	918	925	942	945	..	..
57 .....	..	..	..	..	908	913	934	937	..	..
58 .....	..	..	..	..	895	899	924	928	..	..
59 .....	..	..	..	..	877	881	911	915	..	..
60 .....	..	..	..	..	855	858	895	899	912	..
61 .....	..	..	..	..	..	831	869	879	894	..
62 .....	..	..	..	..	..	796	835	855	872	..
63 .....	..	..	..	..	..	754	794	826	846	..
64 .....	..	..	..	..	..	709	744	789	813	..
65 .....	..	..	..	..	..	610	677	744	777	..
66 .....	..	..	..	..	..	557	617	693	736	..
67 .....	..	..	..	..	..	504	557	636	691	..
68 .....	..	..	..	..	..	451	499	579	643	..
69 .....	..	..	..	..	..	399	441	522	593	..
70 .....	..	..	..	..	..	331	380	469	544	576
71 .....	..	..	..	..	..	..	333	416	492	529
72 .....	..	..	..	..	..	..	293	369	442	482
73 .....	..	..	..	..	..	..	257	326	394	437
74 .....	..	..	..	..	..	..	225	289	351	394
75 .....	..	..	..	..	..	..	197	255	312	354
76 .....	..	..	..	..	..	..	171	226	276	315
77 .....	..	..	..	..	..	..	147	200	246	280
78 .....	..	..	..	..	..	..	124	177	219	248
79 .....	..	..	..	..	..	..	104	157	196	219
80 .....	..	..	..	..	..	..	85	139	175	193
81 .....	..	..	..	..	..	..	..	121	155	172
82 .....	..	..	..	..	..	..	..	103	135	152
83 .....	..	..	..	..	..	..	..	88	117	134
84 .....	..	..	..	..	..	..	..	75	102	118

.. Not available.





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